

ORDER NO. DSC0401003C0
B26

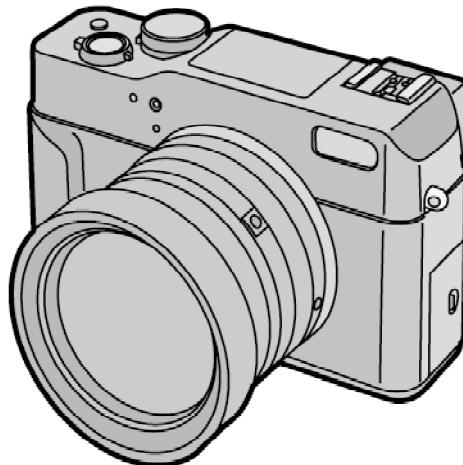
Service Manual

Digital Camera

LUMIX
SD™
LEICA
DC VARIO-SUMMICRON

DMC-LC1PP / DMC-LC1EB / DMC-LC1EG / DMC-LC1GC /
DMC-LC1GD / DMC-LC1GN

Vol. 1
Colour
(K).....Black Type



SPECIFICATIONS

SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
Camera Effective pixels	5,000,000 Pixels	Microphone	Monaural
Image sensor	2/3" CCD, total pixel number 5,240,000 pixels	Speaker	Monaural
Lens	Primary color filter	Recording media	SD Memory Card/MultiMediaCard
	Optical 3.2× zoom, f=7.0-22.5 mm (35mm film camera equivalent: 28-90 mm)/F2.0-2.4	Picture size	2560×1920, 2048×1536, 1600×1200, 1280×960, 640×480, 1920×1080 (Still picture) 320×240 (Motion image)
Digital zoom	Single: 3×, Burst: 3×	Quality	RAW/Super Fine/Fine/Standard
Focus	Contrast sensor combined use Auto/Macro/Manual/Spot AF	Still Picture:	JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding
Focus range	AF: 1.97 feet (60 cm)-∞, MF/AF-Macro: 0.98 feet (30 cm)-∞	Recording file format	JPEG (Design rule for Camera File system, based on Exif 2.2 standard)/QuickTime (picture with audio)
Shutter system	Electronic shutter + Mechanical shutter		QuickTime Motion JPEG (motion images with audio)
Burst recording	2.7 frames/second (high speed burst), max. 9 frames (standard)/max. 5 frames (fine) max. 3 frames (super fine) (When setting to 2560×1920 pixels)	Interface	Digital: Supporting USB 2.0 (High Speed) Analog video/audio: NTSC/PAL Composite/Audio line output (monaural)
Motion image recording	320×240 (30 or 10 frames/second with audio)	Terminal	USB: 5 pin Mini USB Analog video/audio: Φ2.5 mm jack
ISO sensitivity	AUTO/100/200/400	Power source	DC 8.4V
Shutter speed	Program AE (P)/Aperture priority AE (A): 2 - 1/4,000 sec. Shutter-priority AE (S)/Manual exposure (M): 8 - 1/2,000 sec. Motion image mode: 1/30 sec. - 1/4,000 sec.	Power Consumption	3.0W (When recording with LCD Monitor) 2.5W (When recording with Viewfinder) 1.7W (When playing back with LCD Monitor) 1.2W (When playing back with Viewfinder)
Metering range	EV1 - EV19	Dimensions (W×H×D)	5 3/10"×3 1/5"×4" / 134.7×81.5×101.5 mm (excluding the projection part)
White balance	AUTO/Daylight/Cloudy/Halogen/Flash/Monochrome/White set	Weight	Approx. 22.1 oz / 627 g (excluding Memory Card and battery) Approx. 24.8 oz / 702 g (with Memory Card and battery)
Exposure (AE)	Program AE (P)/Aperture-priority AE (A)/ Shutter-priority AE (S)/Manual exposure (M)	Operating Temperature	32F - 104F (0°C - 40°C)
	Exposure compensation (1/3 EV step, -2 - +2 EV)	Operating Humidity	10% - 80%
Metering mode	Multi/Center weighted/Spot	Solder	This model uses lead free solder (PbF).
LCD monitor	2.5" low-temperature polycrystalline TFT transreflective LCD (210,000 Pixels) (field of view: Approx. 100%)		
Viewfinder	Color electrical Viewfinder (235,000 Pixels) (field of view: Approx. 100%) (will dioptr adjustment -4 +4 dioptr)		
Flash	Built-in pop up flash Flash range: (ISO 100) approx. 1.64 feet (50 cm) - 15.8 feet (4.8 m) (Wide)/ approx. 1.64 feet (50 cm) - 13.1 feet (4 m) (Tele) AUTO, AUTO/Red-eye reduction, Forced ON, Forced ON/Red-eye reduction, Slow sync, Slow sync./Red-eye reduction, Forced OFF		

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. INTRODUCTION

1.1. INTRODUCTION

This service manual contains technical information, which allow service personnel's to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, the information will be followed by service manual to be controlled with original service manual.

1.2. ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF stamp on the PCB.

Caution:

- Pb free solder has a higher melting point than standard solder,

Typically the melting point is 50-70°F (30-40°C) higher.

Please use a high temperature soldering iron. In case of soldering iron with temperature control, please set it to 700±20°F (370±10°C)

- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).

When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

1.3. IMPORTANT NOTICE 1: (Other than U.S.A. and Canadian Market)

1. The service manual does not contain the following information, because of the impossibility of servicing at component level.

A. Schematic diagram, Block Diagram and C.B.A. layout of Main C.B.A.

B. Parts list for individual parts of Main C.B.A.

When a part replacement is required for repairing Main C.B.A., replace as an assembled parts. (Main C.B.A.)

2. The following category is/are recycle module part. please send it/ them to Central Repair Center.

- MAIN C.B.A. (VEP56010A) : Excluding replacement of Lithium Battery

1.4. HOW TO DEFINE THE MODEL SUFFIX (NTSC or PAL model)

There are four kinds of DMC-LC1, regardless the colours.

- a) DMC-LC1S
- b) DMC-LC1PP
- c) DMC-LC1EB/EG/GC/GN
- d) DMC-LC1GD

(DMC-LC1S is exclusively Japan domestic model.)

What is the difference is that the “INITIAL SETTING” data which is stored in Flash ROM mounted on Main C.B.A.

1.4.1. Defining methods:

To define the model suffix to be serviced, refer to the nameplate which is putted on the bottom side of the Unit.

a) DMC-LC1S
DMC-LC1S is exclusively Japan domestic model.

b) DMC-LC1PP
The nameplate for this model show the following Safety registration mark.



c) DMC-LC1EB/EG/GC/GN
The nameplate for these models show the following Safety registration mark.



d) DMC-LC1GD
The nameplate for these models do not show any above safety registration mark.



NOTE:

After replacing the MAIN C.B.A., be sure to achieve adjustment. The adjustment instruction is available at “software download” on the “CS-Web from AVC” web-site in “TSN system”, together with Maintenance software.

1.4.2. INITIAL SETTINGS:

When you replace the Main C.B.A. be sure to perform the initial settings after achieving the Adjustment, by ordering the following procedure in accordance with model suffix.

Preparation:

Insert the SD card which has a few photo data.

- Step 1. The temporary cancellation of factory setting:

Set the mode dial to “ [SINGLE] ”.

While keep pressing [Flash] and “ [UP] of Cross key” simultaneously, turn the Power on.

- Step 2. The cancellation of factory setting:

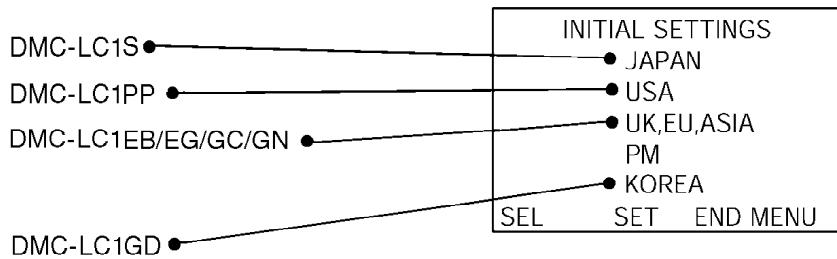
Set the mode dial to “ [Playback] ”.

While keep pressing [Flash] and “ [UP] of Cross key” simultaneously.

- Step 3. Display the INITIAL SETTING:

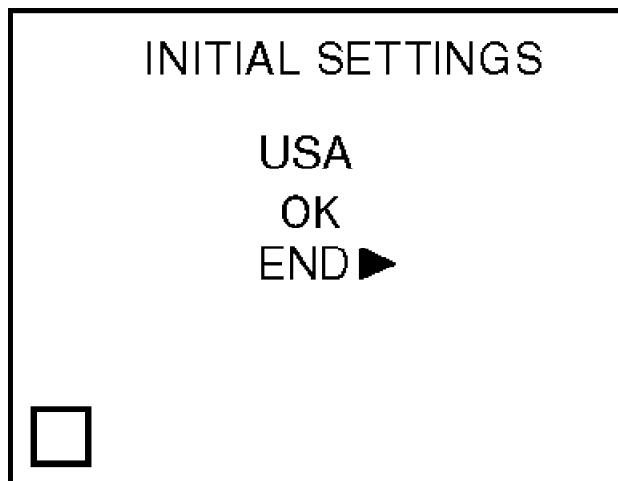
Set the mode dial to “ [SINGLE] ”.

While keep pressing [MENU] and “ [RIGHT] of Cross key” simultaneously, turn the Power off.



- Step 4. Set the INITIAL SETTING:

Select the area with pressing “ [UP] / [DOWN] of Cross key”, and then press the “ [RIGHT] of Cross key”.



The only set area is displayed, and then press the " [RIGHT] of Cross key" after confirmation. (The unit is powered off automatically.)

Confirm the display of “PLEASE SET THE CLOCK” in English when the unit is turned on again.

- NOTE:

The display shows “PLEASE SET THE CLOCK” when turn the Power on again.

Connect the unit to PC with USB cable and is detected as removable media.

1) As for your reference Default setting condition is given in the following table.

- Default setting (After “INITIAL SETTINGS”)

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DMC-LC1S	NTSC	Japanese	Year/Month/Date	
b)	DMC-LC1PP	NTSC	English	Month/Date/Year	
c)	DMC-LC1EB/EG/GC/GN	PAL	English	Date/Month/Year	
d)	DMC-LC1GD	NTSC	English	Year/Month/Date	

2. SAFETY PRECAUTIONS

2.1. GENERAL GUIDELINES

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by Δ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

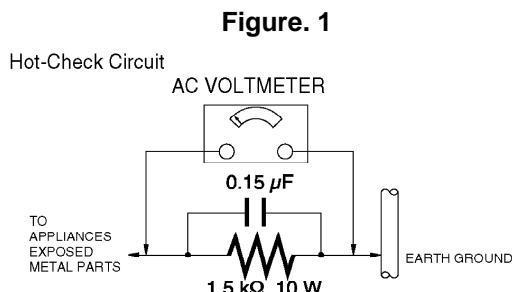
2.2. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1 M \Omega$ and $5.2 M \Omega$. When the exposed metal does not have a return path to the chassis, the

reading must be infinity.

2.3. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5 \text{ k}\Omega$, 10 W resistor, in parallel with a $0.15 \mu\text{F}$ capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with $1 \text{ k}\Omega/\text{V}$ or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.



3. PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or

semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION :
Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

4. HOW TO RECYCLE THE LITHIUM ION BATTERY /

(U.S. ONLY)

ENGLISH

A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

FRANÇAIS

L'appareil que vous avez acheté est alimenté par une batterie au lithium-ion. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.



5. CAUTION FOR AC CORD (EB only)

5.1. INFORMATION FOR YOUR SAFETY

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

CAUTION

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

FOR YOUR SAFETY

DO NOT REMOVE THE OUTER COVER

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

5.2. CAUTION FOR AC MAINS LEAD

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362

Check for the ASRA mark or the BSI mark on the body of the fuse.



If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

If the fitted moulded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely.

There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt, please consult a qualified electrician.

5.2.1. Important

The wires in this mains lead are coloured in accordance with the following code:

Blue	Neutral
Brown	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

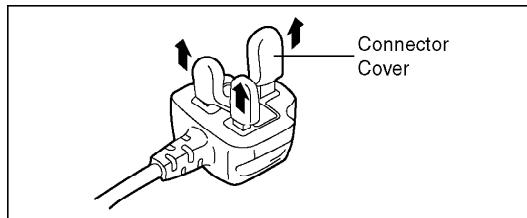
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol.



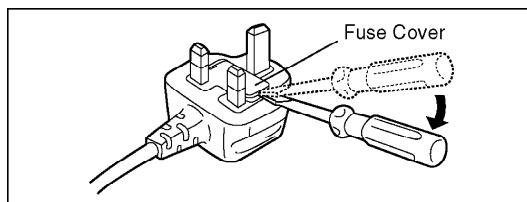
5.2.2. Before use

remove the Connector Cover as follows.

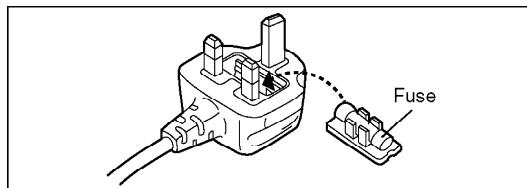


5.2.3. How to replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



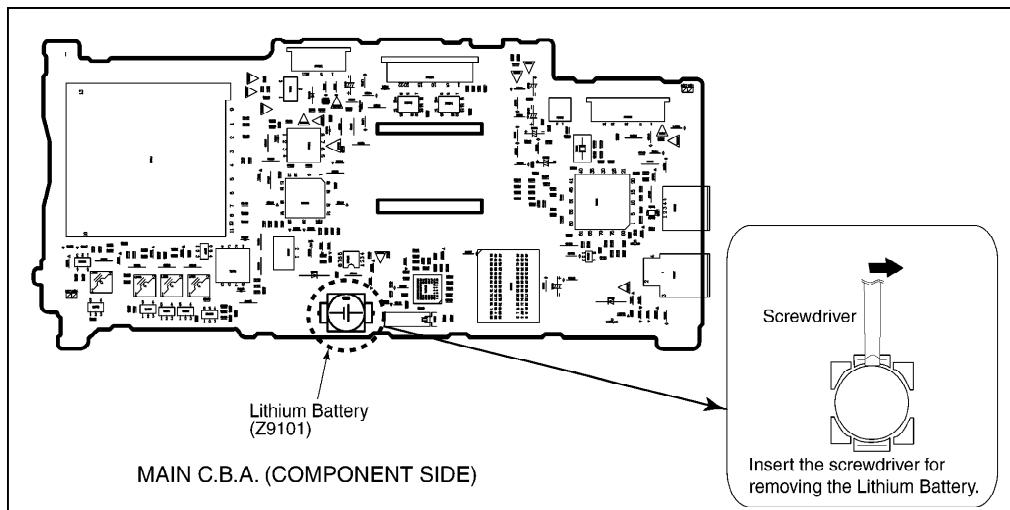
2. Replace the fuse and attach the Fuse cover.



6. HOW TO REPLACE THE LITHIUM BATTERY

6.1. REPLACEMENT PROCEDURE

1. Remove the MAIN C.B.A. (Refer to Disassembly Procedures.)
2. Remove the Lithium battery (Ref. No. "Z9101" at component side of MAIN C.B.A.) and then replace it into new one.



NOTE:

This Lithium battery is a critical component. (Type No.: ML614S
Manufactured by Matsushita Battery Industrial Co.,Ltd.)

It must never be subjected to excessive heat or discharge.

It must therefore only be fitted in requirement designed specifically for its use.

Replacement batteries must be of same type and manufacture.

They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose.

It should be disposed of in waste products destined for burial rather than incineration.

(For English)

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacture's instructions.

(For French)

PRÉCAUTION

Le fait de remplacer incorrectement la pile peut présenter des risques d'explosion.
Remplacer la pile uniquement par une pile identique ou de type équivalent recommandée par le fabricant. Se débarrasser des piles usagées conformément aux instructions du fabricant.

(For German)

VORSICHT

Bei einer falsch eingesetzten Batterie besteht Explosionsgefahr. Nur mit einer vom Hersteller empfohlenen Batterie vom gleichen Typ ersetzen.
Verbrauchte Batterien beim Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

(For Swedish)

WARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

(For Norwegian)

ADVARSEL!

Lithiumbatteri-Eksplorationsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

(For Finnish)

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

7. OPERATING GUIDE

8. SERVICE NOTES

8.1. WHEN REPLACING THE MAIN C.B.A.

After replacing the MAIN C.B.A., be sure to achieve adjustment.

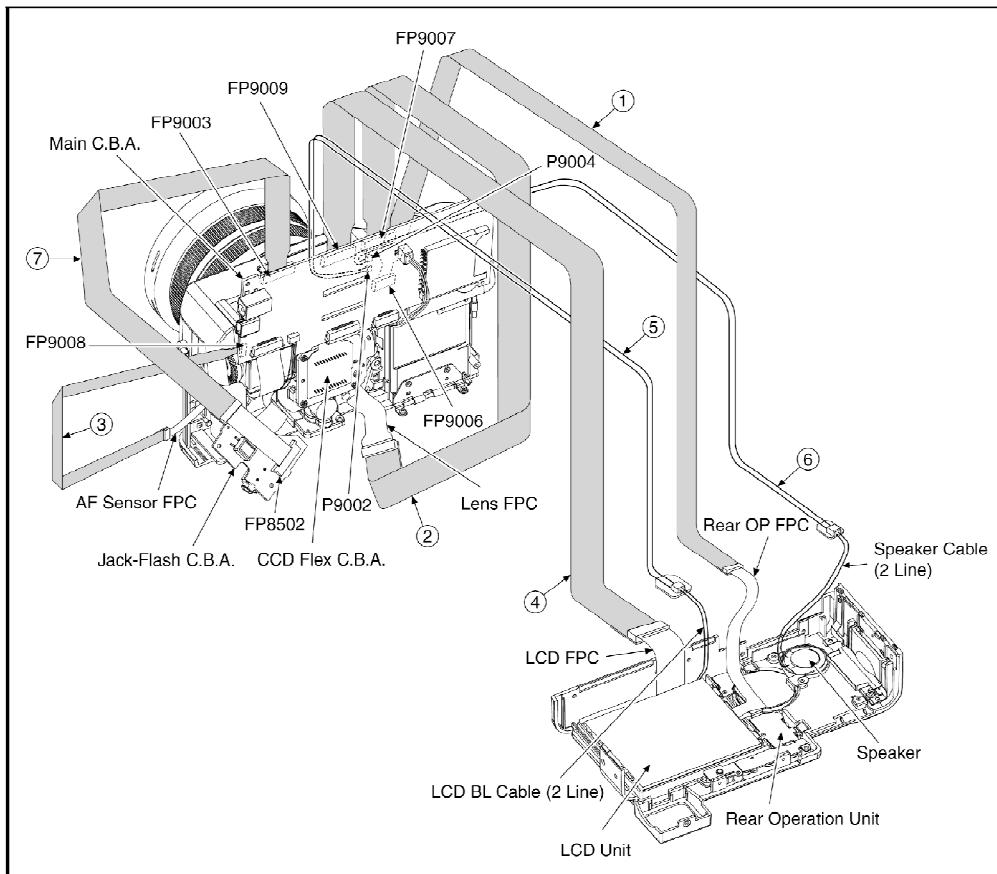
The adjustment instruction is available at “software download” on the “CS-Web from AVC” website in “TSN system”, together with Maintenance software.

8.2. SERVICE POSITION

This Service Position is used for checking and replacing parts. Use the following Extension cables for servicing.

Table S1 Extension Cable List

No.	Parts No.	Connection	Form
1	VFK1388	FP9006 (MAIN) - REAR OPERATION UNIT	12PIN 0.5 FFC
2	VFK1284	FP9007 (MAIN) - LENS UNIT	24PIN 0.5 FFC
3	VFK1440	FP9008 (MAIN) - AF SENSOR	10PIN 0.5 FFC
4	VFK1284	FP9009 (MAIN) - LCD UNIT	24PIN 0.5 FFC
5	VFK1576DC04	P9002 (MAIN) - LCD BACKLIGHT	2PIN CABLE
6	VFK1576DC202	P9004 (MAIN) - SPEAKER	2PIN CABLE
7	VFK1712	FP9003 (MAIN) - FP8502 (JACK-FLASH)	20PIN 0.5 FFC



CAUTION-1. (When servicing JACK-FLASH C.B.A.)

1. **Be sure to discharge the capacitor on JACK-FLASH C.B.A.**
Refer to "HOW TO DISCHARGE THE CAPACITOR ON JACK-FLASH C.B.A.".
The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. **Be careful of the high voltage circuit on JACK-FLASH C.B.A.**
3. **DO NOT allow other parts to touch the high voltage circuit on JACK-FLASH C.B.A.**

8.3. HOW TO DISCHARGE THE CAPACITOR ON JACK-FLASH C.B.A.

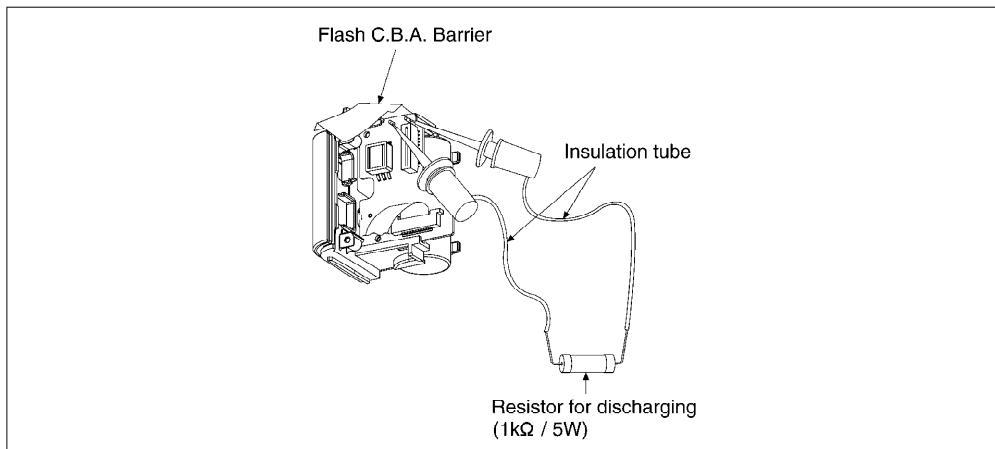
CAUTION:

1. Be sure to discharge the capacitor on JACK-FLASH C.B.A.
2. Be careful of the high voltage circuit on JACK-FLASH C.B.A. when servicing.

[Discharging Procedure]

1. Refer to the disassemble procedure and remove the necessary parts/unit.
2. Put the insulation tube onto the lead part of resistor (ERG5SJ102: 1k Ω /5W).
(an equivalent type of resistor may be used.)
3. Put the resistor between both terminals of capacitor on JACK-FLASH C.B.A. for approx. 5 seconds.
4. After discharging confirm that the capacitor voltage is lower than 10V using a voltmeter.

Fig. F1



8.4. CLEANING LENS, VIEWFINDER AND LCD PANEL

Do not touch the surface of lens, viewfinder and LCD Panel with your hand.

When cleaning the lens, use air-Blower to blow off the dust.

When cleaning the viewfinder and LCD Panel, dampen the lens cleaning paper with lens cleaner, and the gently wipe the their surface.

Note:

A lens cleaning paper and lens cleaner are available at local camera shops and market place.

9. ADJUSTMENT PROCEDURES

Although the repair of Main C.B.A. is separated, it needs the electrical adjustment and factory setting when it is replaced the Main C.B.A., IC6004 (Flash-ROM) and related parts.

The electrical adjustment in this unit is separated two types as shown below.

(Concerning to the adjustment conditions and procedures, please use the "Adjustment Manual" contained in "View 3" on the web-site.

1. Main unit adjustment: All adjustments except for LCD and EVF adjustments.

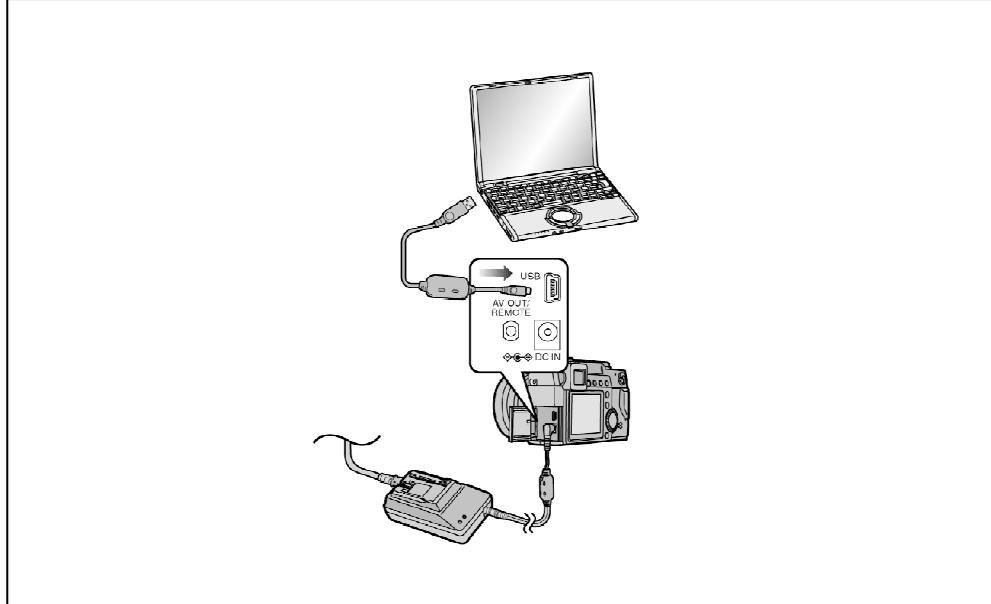
This unit mounts the adjustment software for main unit, it wouldn't need the connection between the PC and this unit with USB cable.

2. LCD and EVF adjustment: Adjustments for LCD and EVF.

It need the connection between the PC and this unit with USB cable.

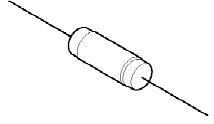
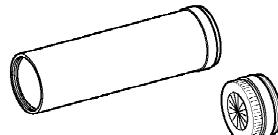
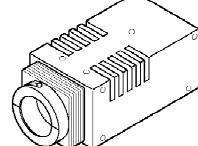
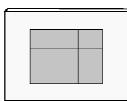
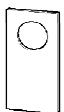
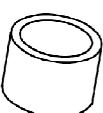
(This adjustments needs the adjustment software contained in "View 3".

The connection is shown to the figure below.



9.1. SERVICE FIXTURE AND TOOLS

The following Service Fixture and tools are used for checking and servicing this unit.

Resistor for Discharging ERG5SJ102	Infinity Lens (with Focus Chart) VFK1164TCM02	LIGHT BOX VFK1164TDVLB
		 ※ with DC Cable
An equivalent type of Resistor may be used.		
Colour Bar Chart VFK1828	Filter (Slip-in Type) ND0.1 Type VFK1164ND01 (2 sheet are required for adjustment)	Color temperature conversion filter VFK1164LBB1
		
	An equivalent type of Filters may be used.	An equivalent type of Filters may be used.
Grease (for lens) VFK1829	Dome type magnifying glass VFK1835	Deco Ring Fixer VFK1904
		
Grease (for Cam Frame Unit) VFK1905		
		

10. ERROR CODE MEMORY FUNCTION

1. General description

This unit is equipped with history of error code memory function, and can be memorized 32 error codes in sequence from the latest. When the error is occurred more than 32, oldest error is overwritten in sequence.

The error code is not memorized when the power supply is shut down forcibly (when the unit is powered on by the battery, the battery is pulled out) because the error code is memorized to FLASH ROM when the unit is powered off.

2. How to display

The error code can be displayed by the following procedure:
Before perform the error code memory function, connect the AC

adaptor or insert the battery, and insert the SD card.

- 1. The temporary cancellation of factory setting:

Set the mode dial to “ [SINGLE] (Red mark)”.

While pressing [Flash] and “ [UP] of Cross key” simultaneously and hold them, turn the Power on.

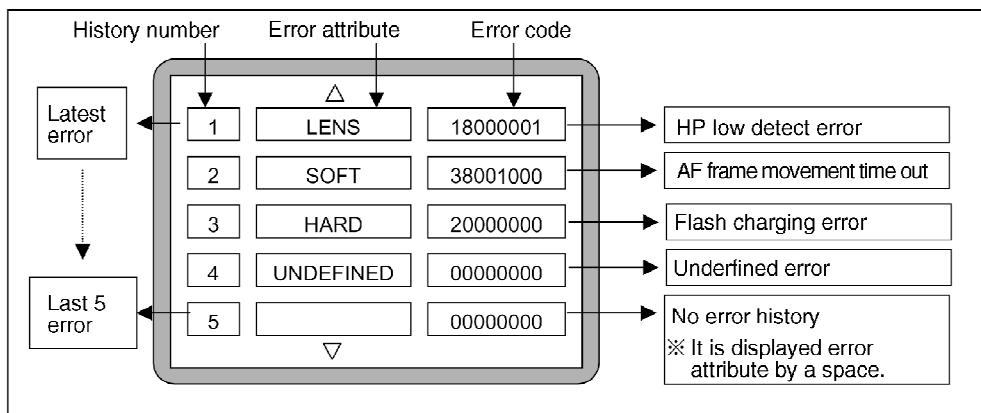
- 2. The display of error code:

Press [Flash] , [MENU] and “ [LEFT] of Cross key” simultaneously with the step 1 condition.

The display is changed as shown below when the above buttons is pressed simultaneously.

Normal display → Error code display → Operation history display → Normal display →

Example of Error Code Display



- 3. The change of display:

The error code can be memorized 32 error codes in sequence, however it is displayed 5 errors on the LCD.

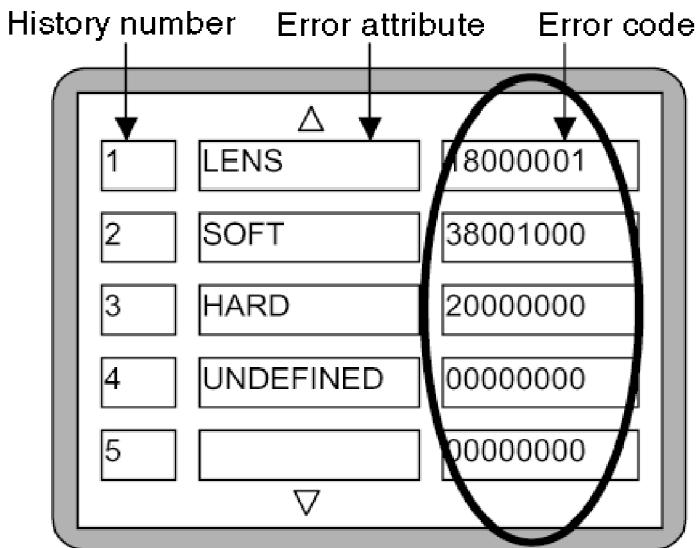
Display can be changed by the following procedure:

“ [UP] or [DOWN] of Cross key”: It can be scroll up or down one.

“ [LEFT] or [RIGHT] of Cross key”: It can be display last 5 error or another 5 error.

- 4. How to read the error code:

One error code is displayed for 8 bit, the contents of error codes is indicated the table as shown below.



Attribute	Main item	Sub item	Error code		Contents	Inspection Points	Power OFF	
			High 4 bits	Low 4 bits				
LENS	Lens drive	Focus related	1800	0001	HP Low detect error (Focus motor and encoder always detects low)	• Focus encoder (FP9007-(1)-(4), (13)) • Focus motor lens	NO	
				0002	HP High detect error (Focus motor and encoder always detects high)	• Focus encoder (FP9007-(1)-(4), (13)) • Focus motor lens	NO	
HARD	VENUS A/D	Flash	2000	0000	Flash charging error	IC6005(4) signal line or Flash charging circuit	NO	
			Sub-ucom related	2A01	0000	Communication error between IC9201(Sub-ucom) and IC6005(VENUS)	Communication between IC9201(Sub-ucom) and IC6005(VENUS) • IC9201(Sub-ucom) or related parts • IC6005(VENUS) or related parts	NO
				2A02	0000	No response from operation key to IC9201(Sub-ucom)	Operation key (except for shutter button) Communication between IC9201(Sub-ucom) and IC6005(VENUS) • IC9201(Sub-ucom) or related parts • IC6005(VENUS) or related parts	NO
				2A03	0000	Abnormal voltage error (5 V)	Power supply signal line	YES*
				2A04	0000	Mode dial signal detect error (Selected Mode does not recognize.)	Mode dial or IC9201(Sub-ucom)	NO
SOFT	CPU, ASIC hard	Monitor related	3800	2B00	Read error of EEPROM data	IC6004 (Flash ROM)	NO	
				UUU1	Write error of EEPROM data	IC6004 (Flash ROM)	NO	
SOFT	CPU, ASIC hard	Stop related	3800	1000	AF frame movement check time out	IC6006(VENUS)	NO	
				0001	Camera task finish process time out	Communication error between IC9201(Sub-ucom) and IC6005(VENUS)	NO	
				0002	Camera task invalid code error	Communication error between IC9201(Sub-ucom) and IC6005(VENUS)	NO	

*: When this error code (2A030000) is detected, LCD is displayed "SYSTEM ERROR". Then power off the unit after 3 seconds.

- 5. How to returned to Normal Display:

Turn the power off and on, to exit from Error code display mode.

NOTE:

The error code can not be initialized by the unit only.

11. CONFIRMATION OF FIRMWARE VERSION

The Firmware version can be confirmed by ordering the following steps:

- Step 1. The temporary cancellation of factory setting:

Set the mode dial to “ [SINGLE] ”.

While keep pressing [Flash] and “ [UP] of Cross key” simultaneously. turn the power on with inserting the SD memory

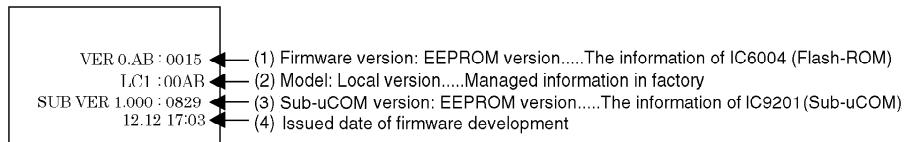
card which has a few photo data.

- Step 2. Confirm the version:

Set the mode dial to “ [Playback] ”.

Press [Flash] and “ [DOWN] of Cross key” simultaneously. (No need to keep pressing.)

(The version information is displayed on the LCD with red colour letters.)



<Point>

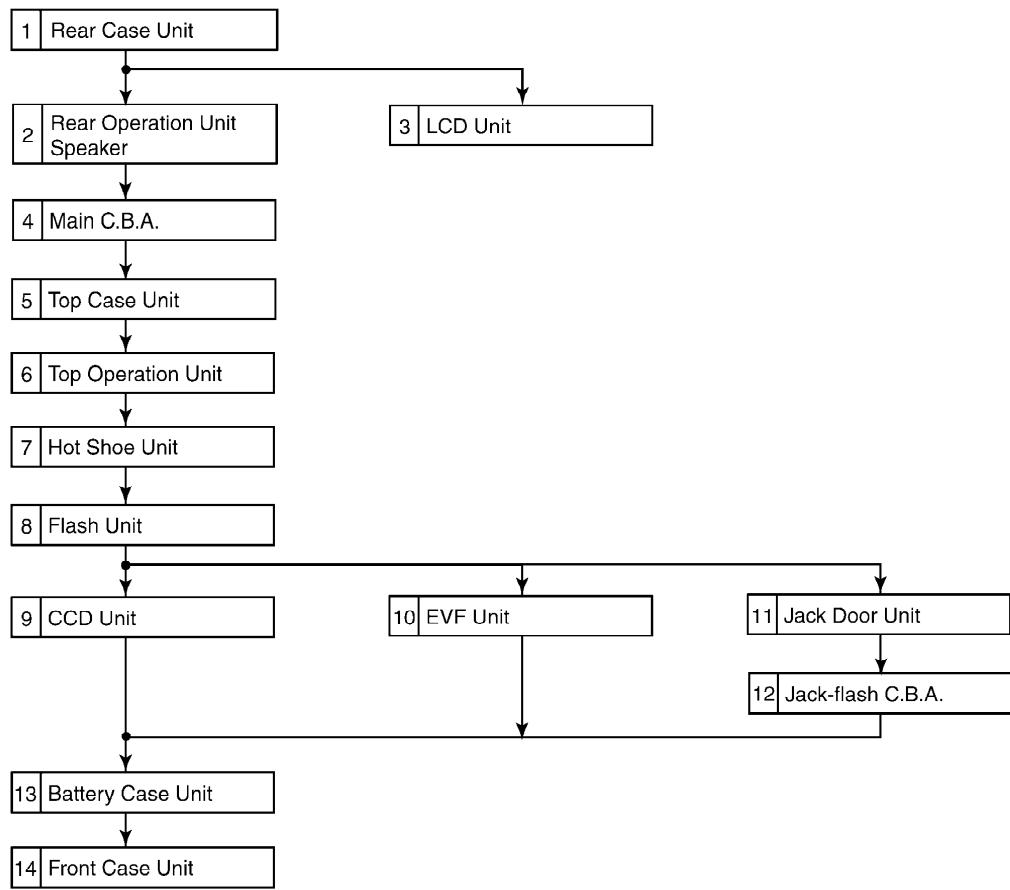
- The firmware version and EEPROM version can be confirmed with the information (1).
- The information (2)-(4) are just reference.

<NOTE>

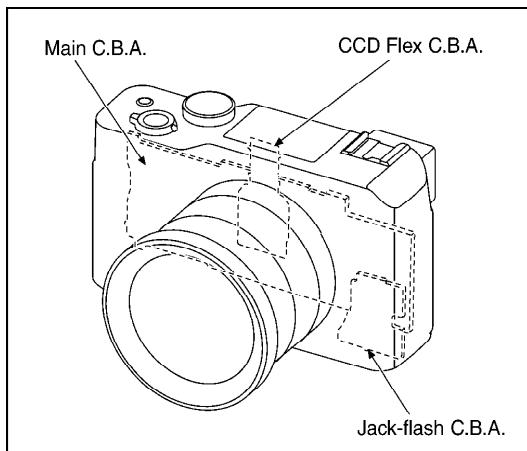
The Sub-uCOM version (stored in IC9201: Masked type) is not rewrite-able.

12. DISASSEMBLY PROCEDURE

12.1. DISASSEMBLY FLOW CHART



12.2. C.B.A. LOCATION



12.3. DIASSEMBLY PROCEDURE

No.	Item	Fig.	Removal
1	Rear Case Unit	Fig. D1	Card Battery Grip Piece Front (R) 4 Screws <A> 5 Screws
		Fig. D2	FP9006(Flex) FP9009(Flex) P9002(Connector) P9004(Connector) EVF Cover 1 Screw <C> 2 Screws <D> Rear Case Unit
2	Rear Operation Unit / Speaker	Fig. D3	5 Screws <E> LCD Barrier Rear Operation Unit Speaker
3	LCD Unit	Fig. D4	LCD BL Connector LCD Unit
4	Main C.B.A.	Fig. D5	FP9001(Flex) FP9002(Flex) FP9003(Flex) FP9004(Flex) FP9007(Flex) FP9010(Flex) P9001(Connector) P9003(Connector) 4 Screws <F> Main C.B.A.
5	Top Case Unit	Fig. D6	FP8501(Flex) 2 Screws <G> 2 Screws <H> Top Case Unit

6	Top Operation Unit	Fig. D7	1 Screw <I>		
			1 Screw <J>		
Fig. D8					
5 Screws <K>					
Power Knob					
Shutter Dial					
Mode Dial					
7	Hot Shoe Unit	Fig. D9	2 Screws <L>		
			Top OP Button		
			Expose Lever		
			Expose Piece		
			Top Operation Unit		
8	Flash Unit	Fig. D10	4 Screws <M>		
			Shoe Spring		
			Hot Shoe Unit		
			2 Screws <N>		
			2 Screws <O>		
9	CCD Unit	Fig. D11	2 Screws <P>		
			Flash Top Case		
			2 Locking Tabs		
			Flash Unit		
			NOTE (When Installing)		
10	EVF Unit	Fig. D12	3 Screws <Q>		
			CCD Unit		
11	Jack Door Unit	Fig. D13	1 Screw <R>		
			EVF Unit		
12	Jack-flash C.B.A.	Fig. D14	1 Screw <S>		
			Jack Door Unit		
13	Battery Case Unit	Fig. D15	2 Screws <T>		
			Jack-flash C.B.A.		
14	Front Case Unit	Fig. D16	3 Screws <U>		
			Battery Case Unit		
		Fig. D17	4 Screws <V>		
			Front Case Unit		

12.3.1. Removal of the Rear Case Unit

Fig. D1

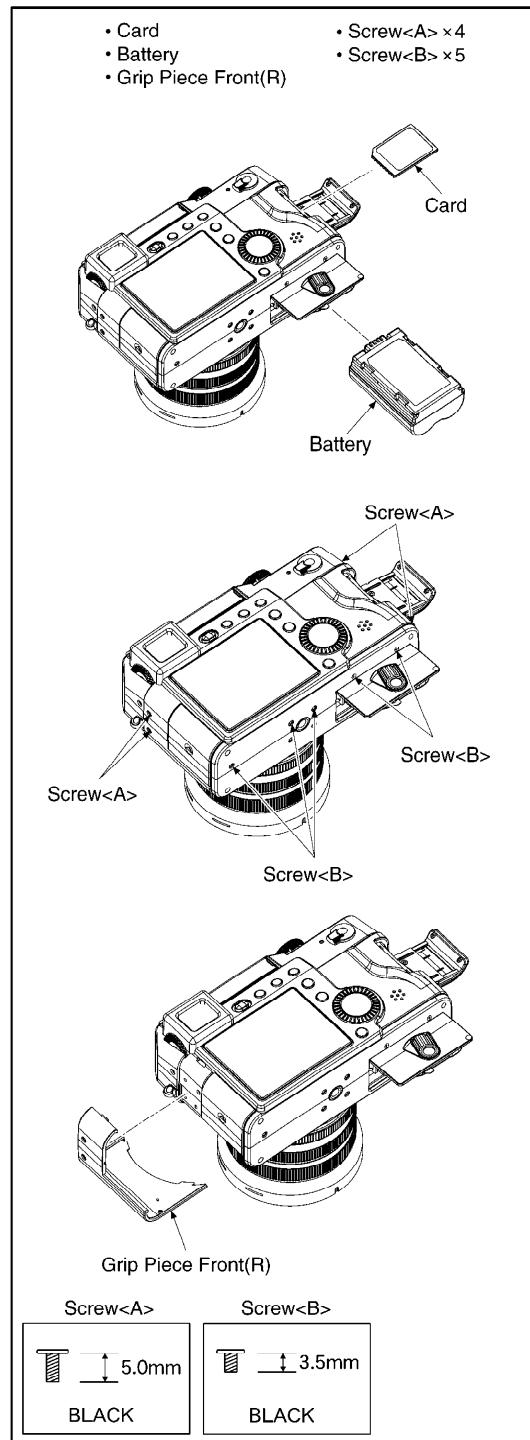
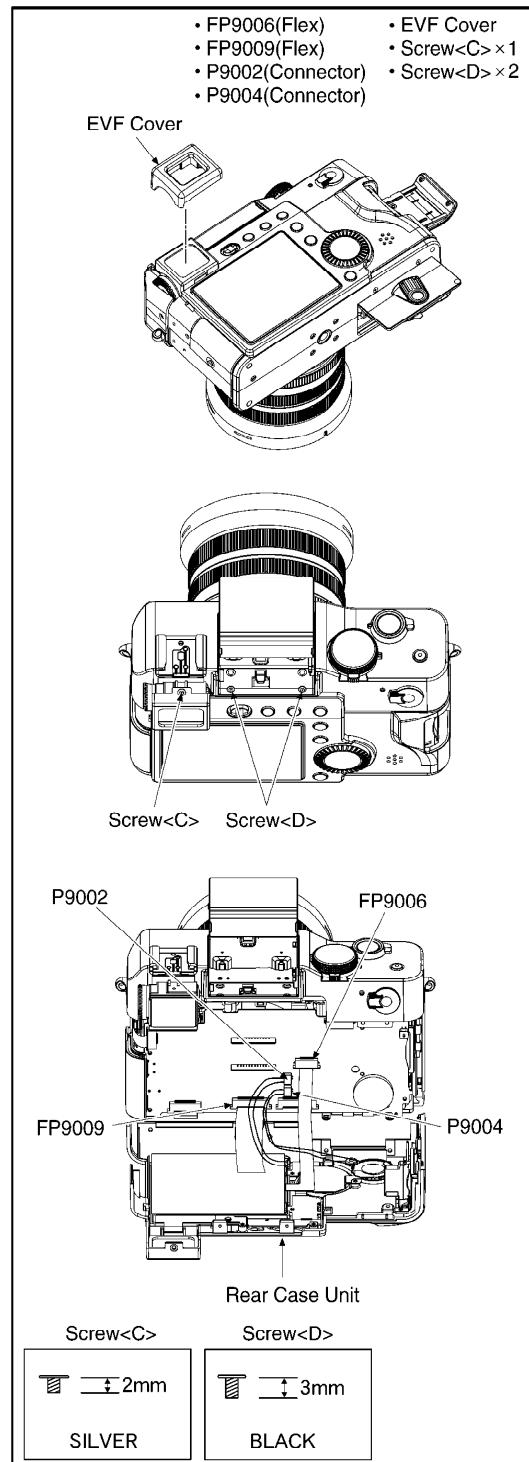
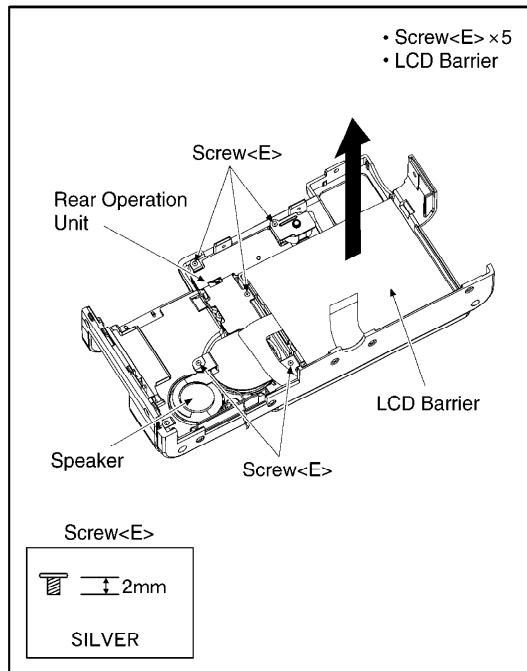


Fig. D2



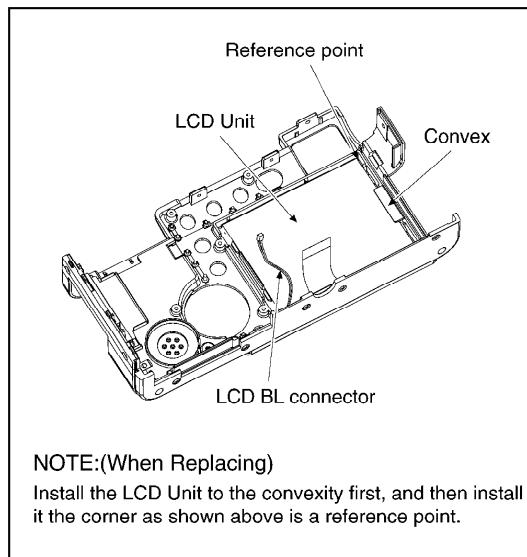
12.3.2. Removal of the Rear Operation Unit and Speaker

Fig. D3



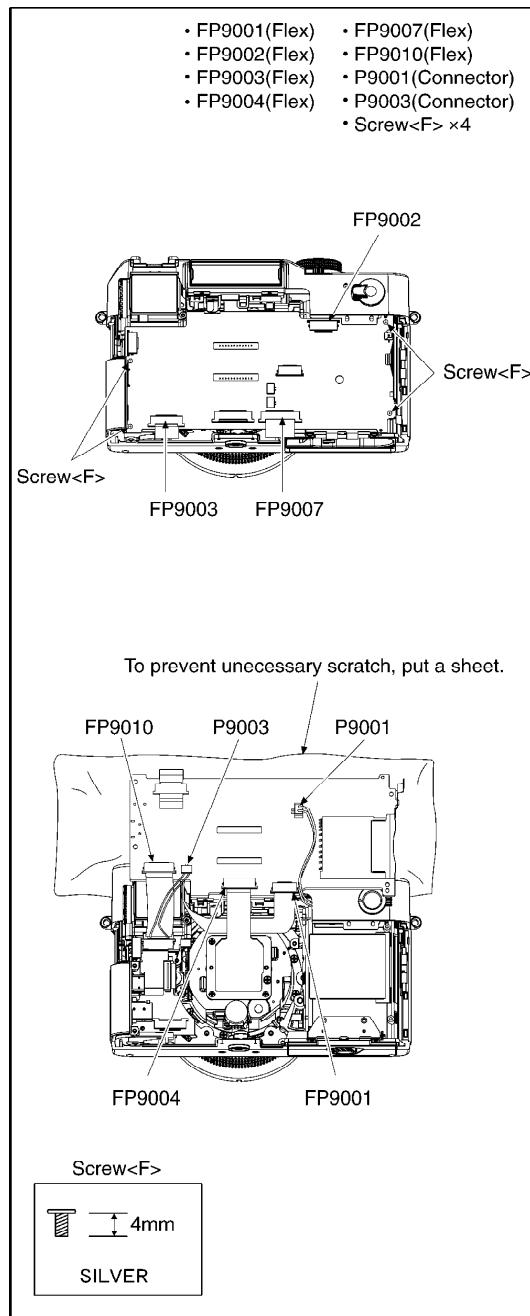
12.3.3. Removal of the LCD Unit

Fig. D4



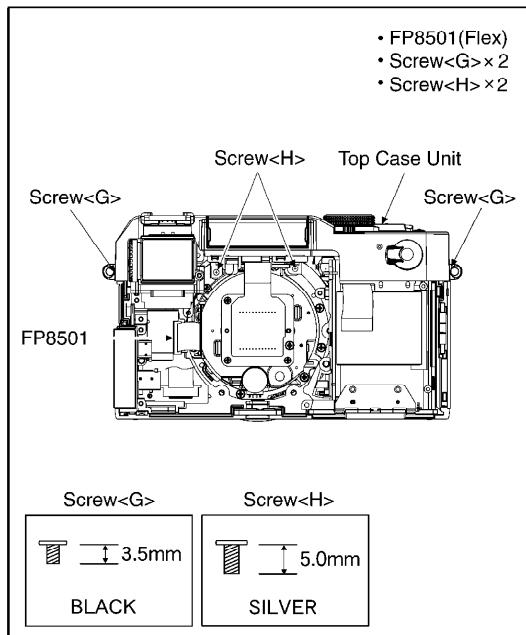
12.3.4. Removal of the Main C.B.A.

Fig. D5



12.3.5. Removal of the Top Case Unit

Fig. D6



12.3.6. Removal of the Top Operation Unit

Fig. D7

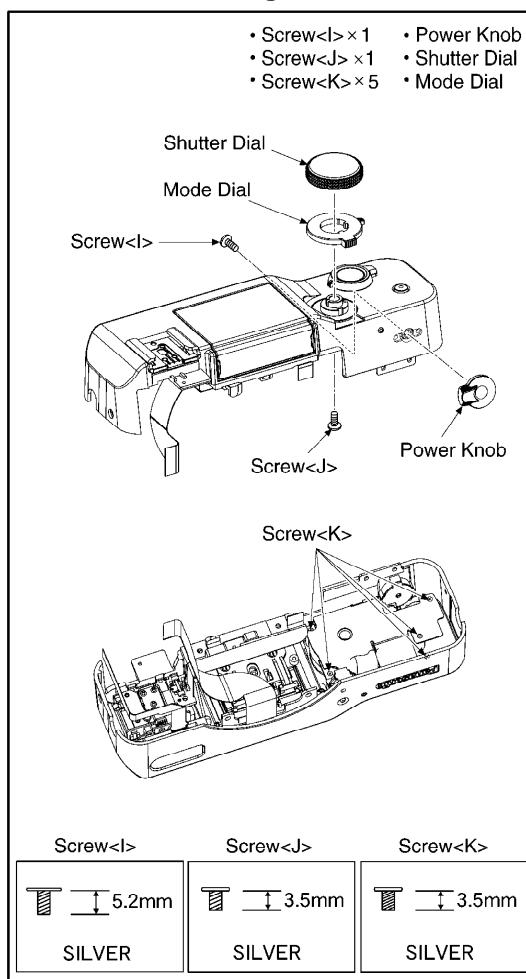
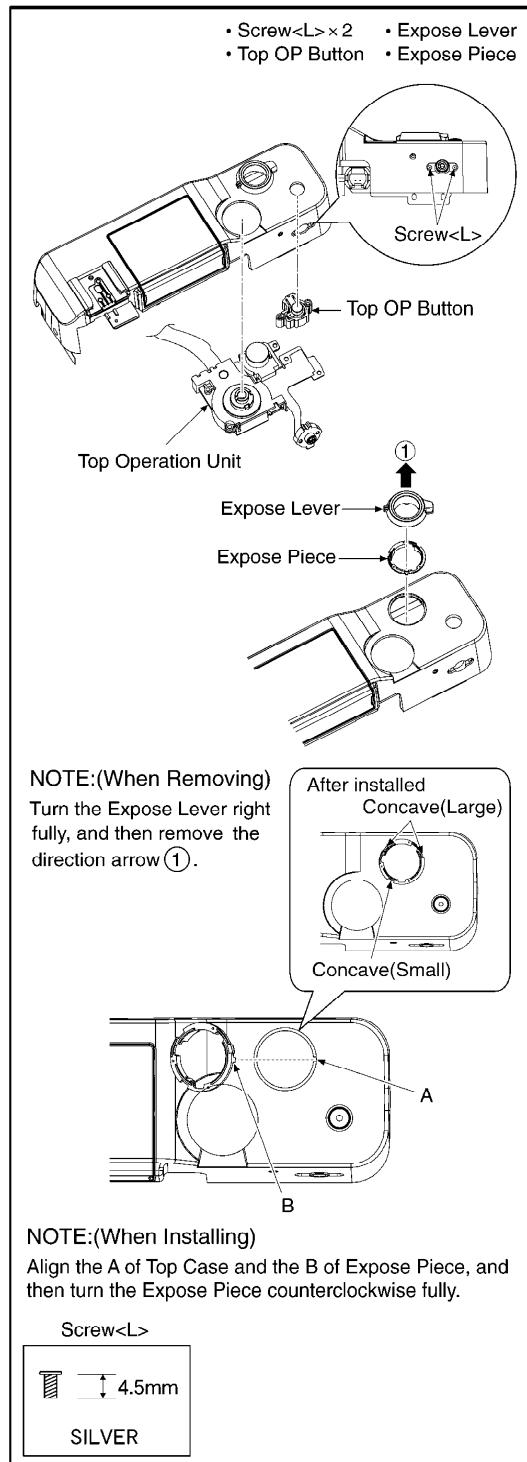
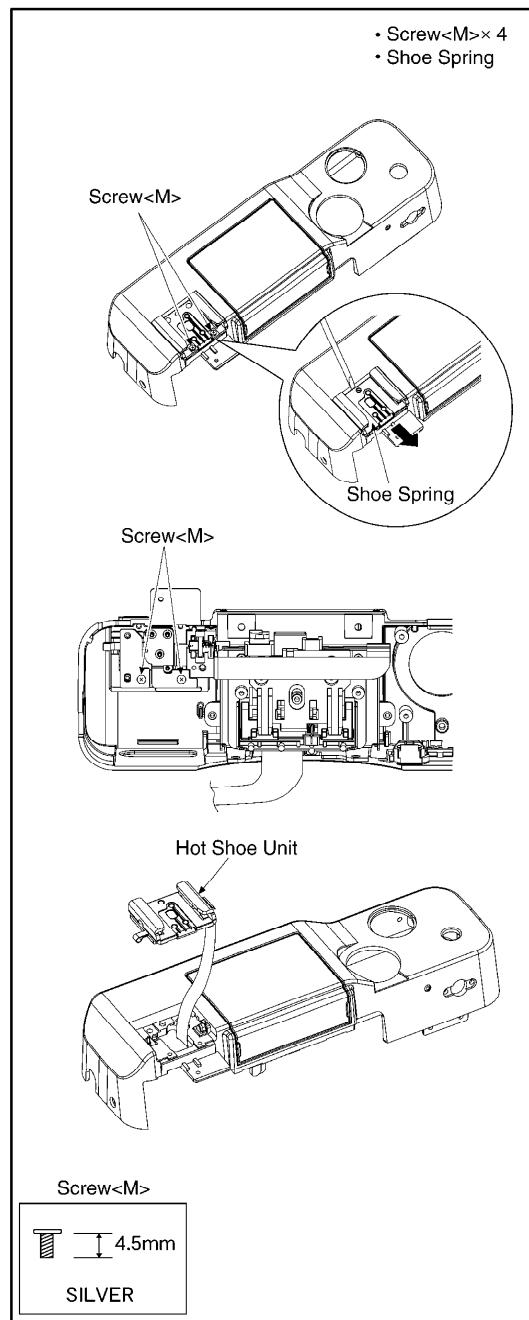


Fig. D8



12.3.7. Removal of the Hot Shoe Unit

Fig. D9



12.3.8. Removal of the Flash Unit

Fig. D10

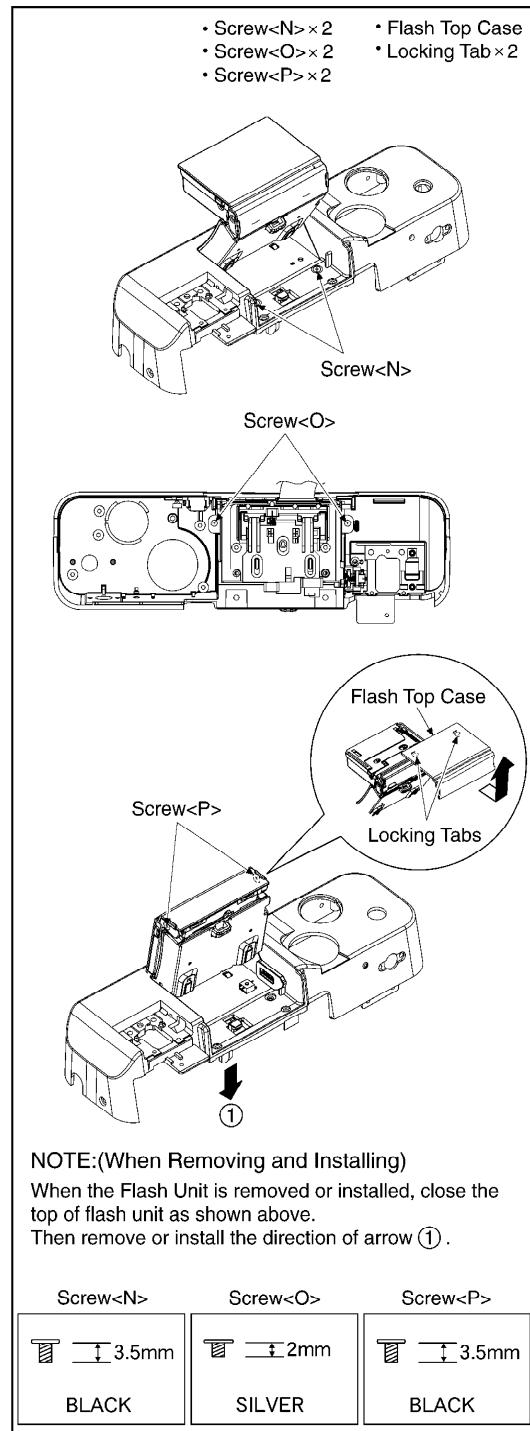
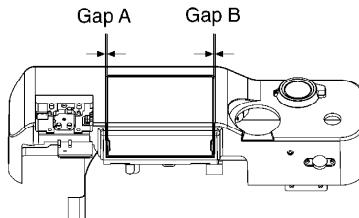


Fig. D11

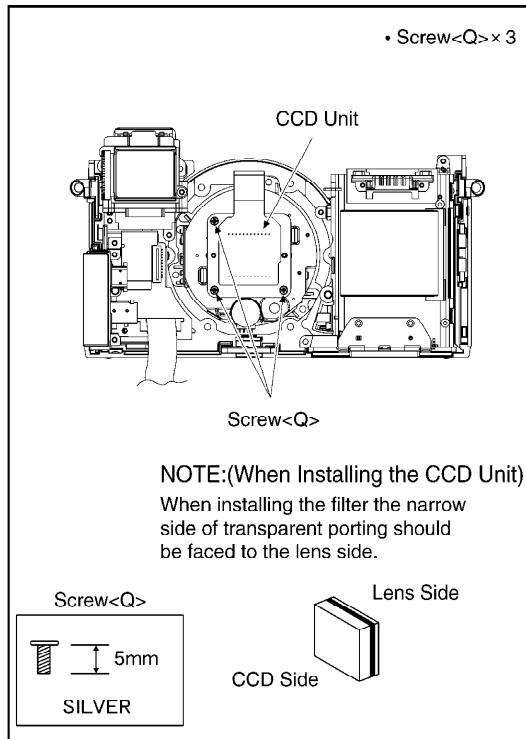
NOTE:(When Installing)
Confirm the Gap between Top Case and Flash Unit in both left and right becomes equal (Gap A = Gap B) as shown below.



12.3.9. Removal of the CCD Unit

To Prevent the CCD unit from catching the dust and dirt, do not remove the CCD unit except for replacing.

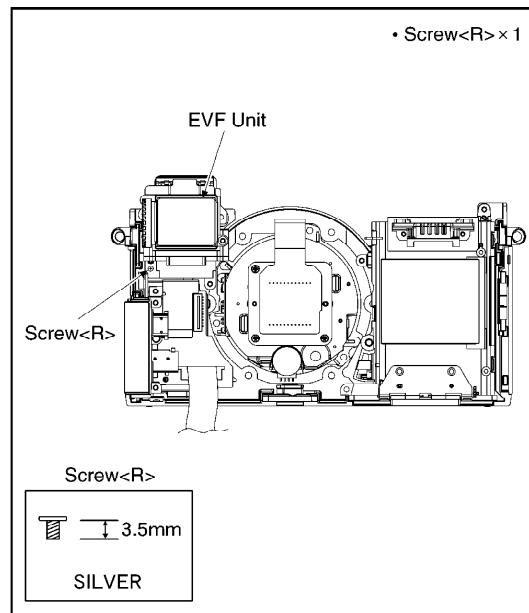
Fig. D12



NOTE:(When Installing the CCD Unit)
When installing the filter the narrow side of transparent porting should be faced to the lens side.

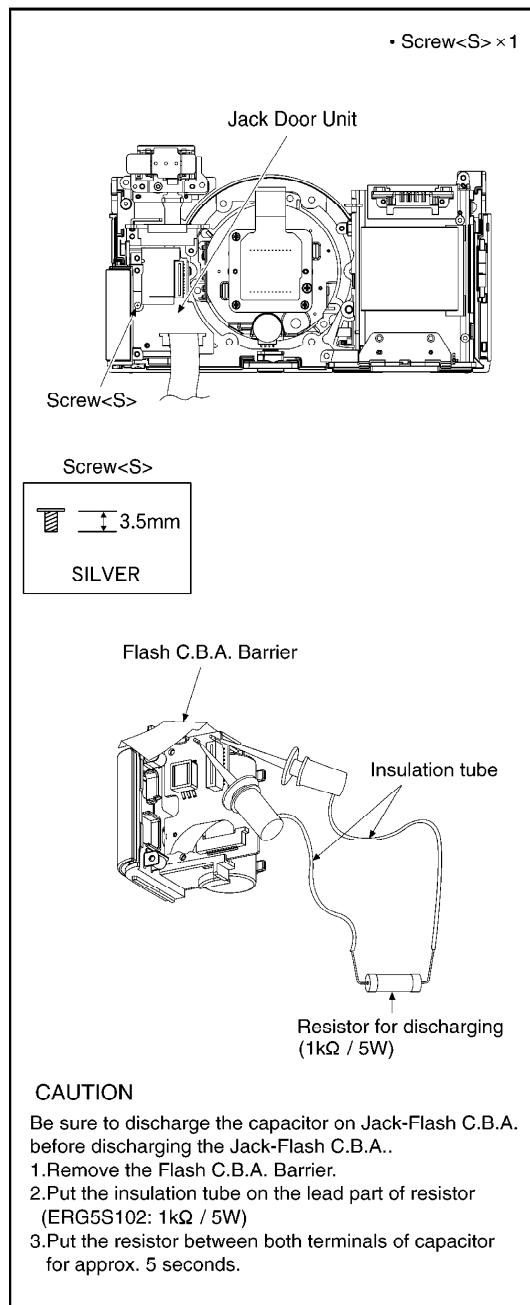
12.3.10. Removal of the EVF Unit

Fig. D13



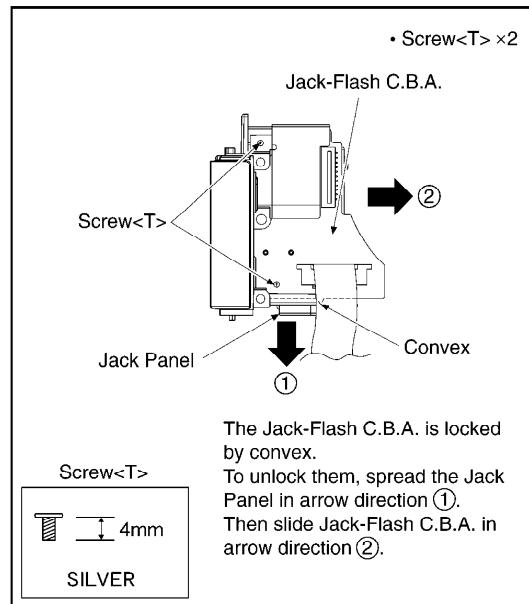
12.3.11. Removal of the Jack Door Unit

Fig. D14



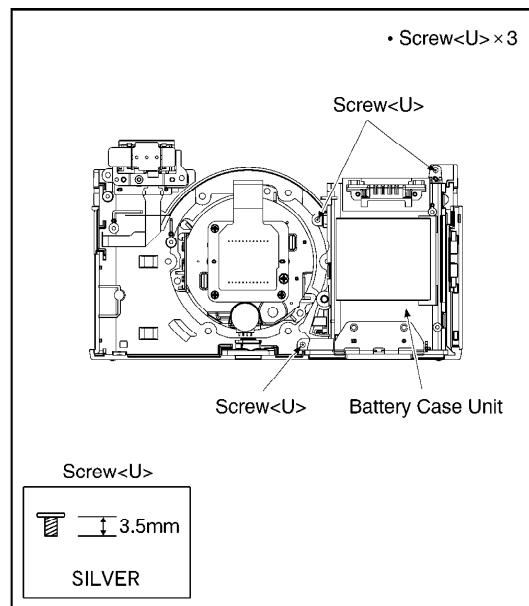
12.3.12. Removal of the Jack-flash C.B.A.

Fig. D15



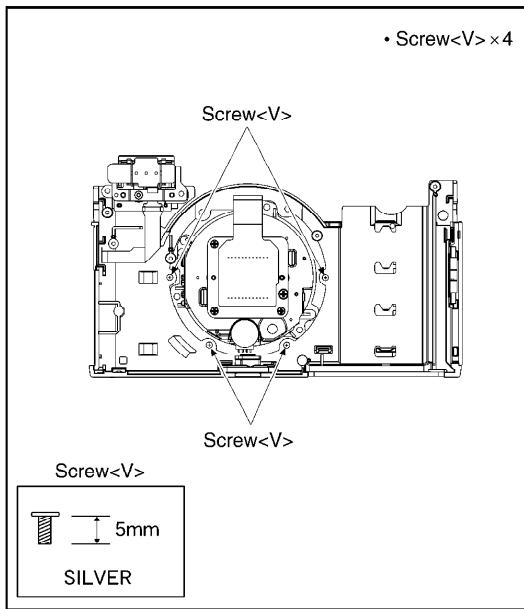
12.3.13. Removal of the Battery Case Unit

Fig. D16



12.3.14. Removal of the Front Case Unit

Fig. D17



NOTE: (When Assembling)

Confirm the contents as shown below.

- Condition of the screw is tightened.
- Assembling condition of mechanism parts (distortion, space etc.).
- Dust and dirt of the lens, display condition of the LCD (gradient etc.).
- Dust and dirt of the LCD

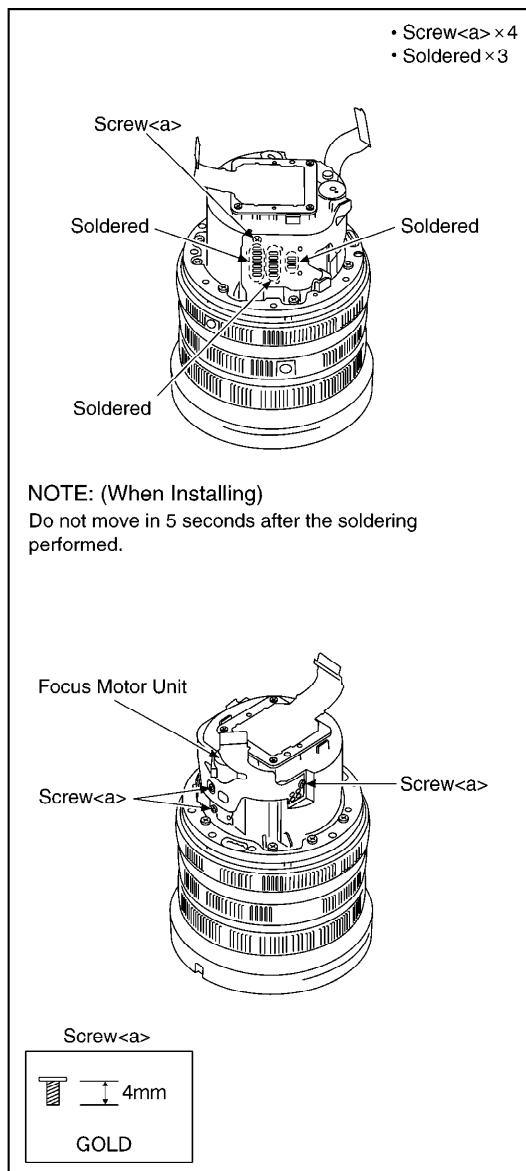
12.4. DISASSEMBLY/ASSEMBLY PROCEDURE FOR THE LENS

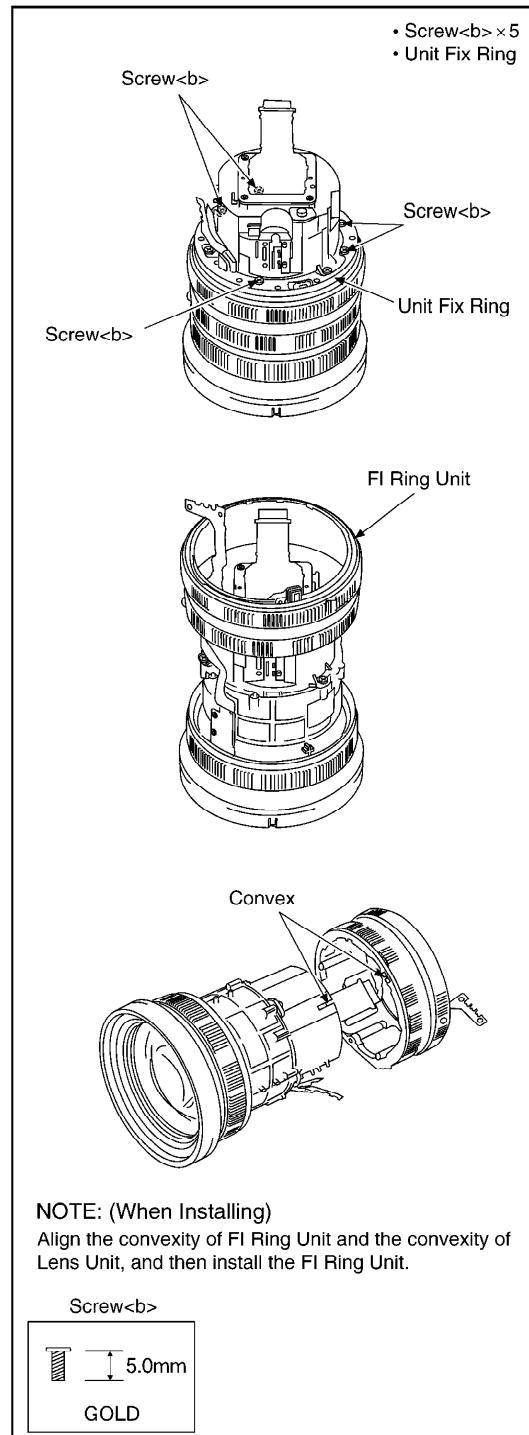
NOTE: When Disassembling and Assembling for the Lens

1. To prevent the lens from catching the dust and dirt, perform the following procedures with the CCD unit is installing.
Disassembling procedures for the CCD unit, refer to item 12.3.9.
2. Take care that the dust and dirt are not entered into the lens.
In case of the dust is putted on the lens, blow off them by airbrush.
3. Do not touch the surface of lens.
4. Apply the grease to the point where is shown in the figure as "Grease apply".
 - VFK1829.....Other than Cam Frame Unit
 - VFK1905.....Only Cam Frame Unit

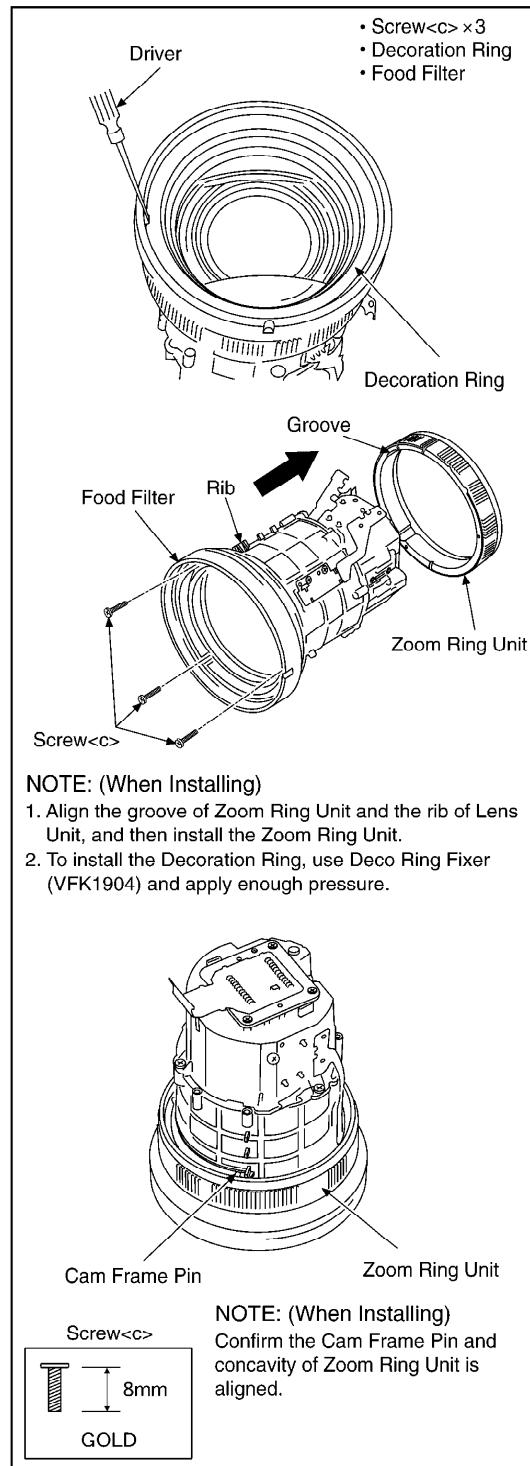
When the grease is applied, use a toothpick and apply thinly.

12.4.1. Removal of the FI Ring Unit

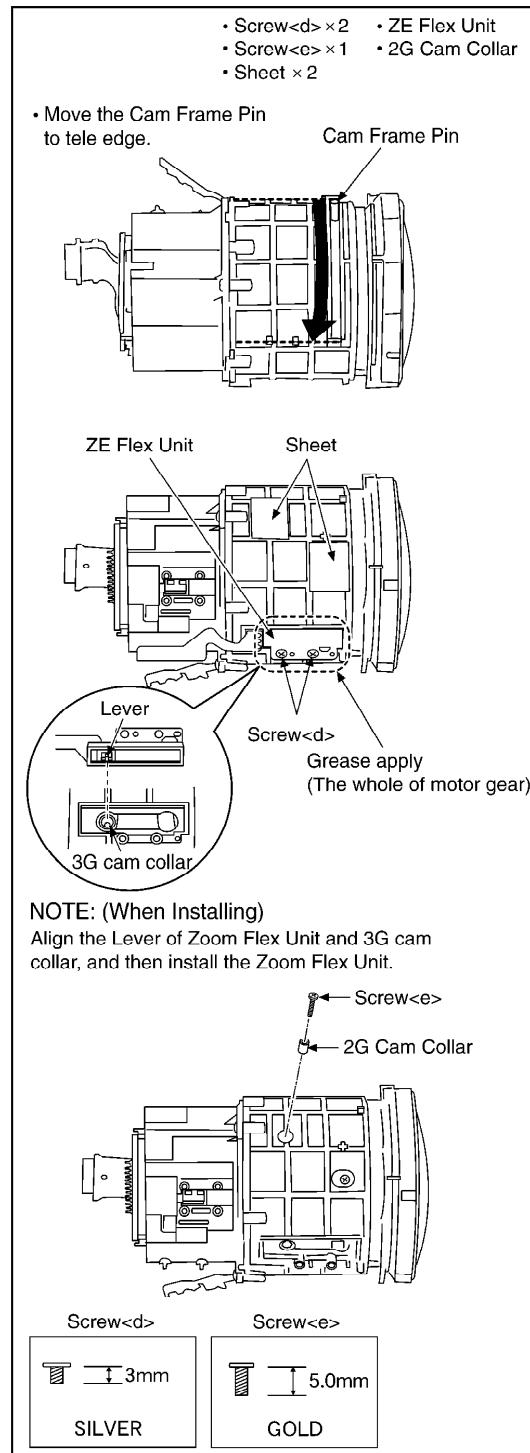




12.4.2. Removal of the Zoom Ring Unit



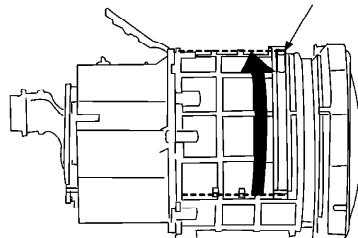
12.4.3. Removal of the Master Flange Unit



- Screw<f> × 2
- 2G Cam Collar
- 3G Cam Collar

• Move the Cam Frame Pin to wide edge.

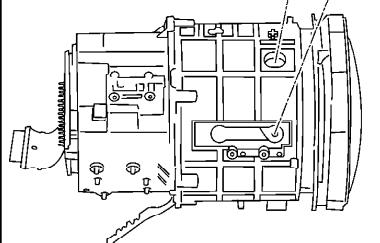
Cam Frame Pin



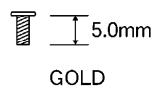
Screw<f>

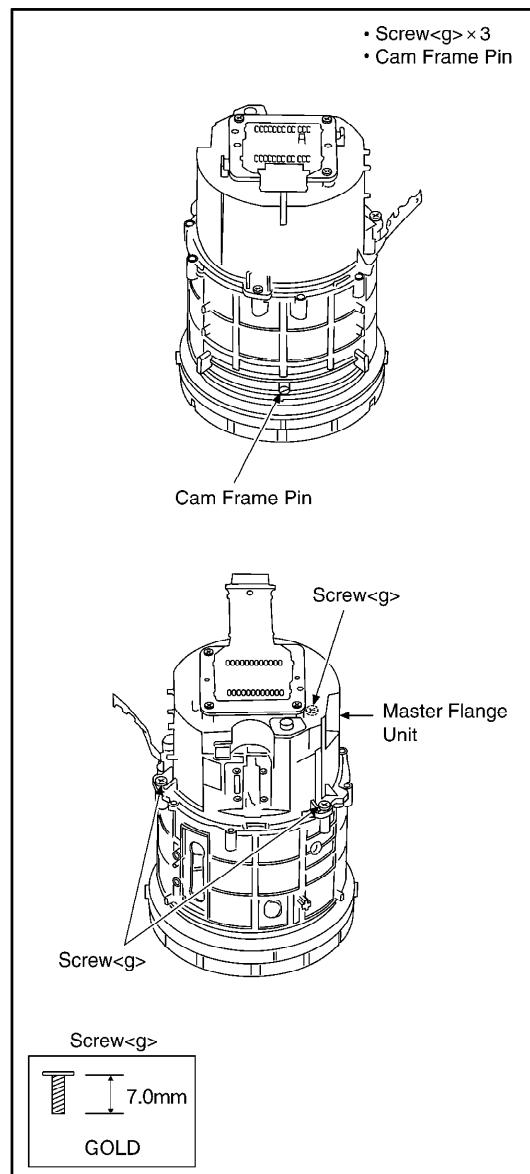
2G Cam Collar

3G Cam Collar

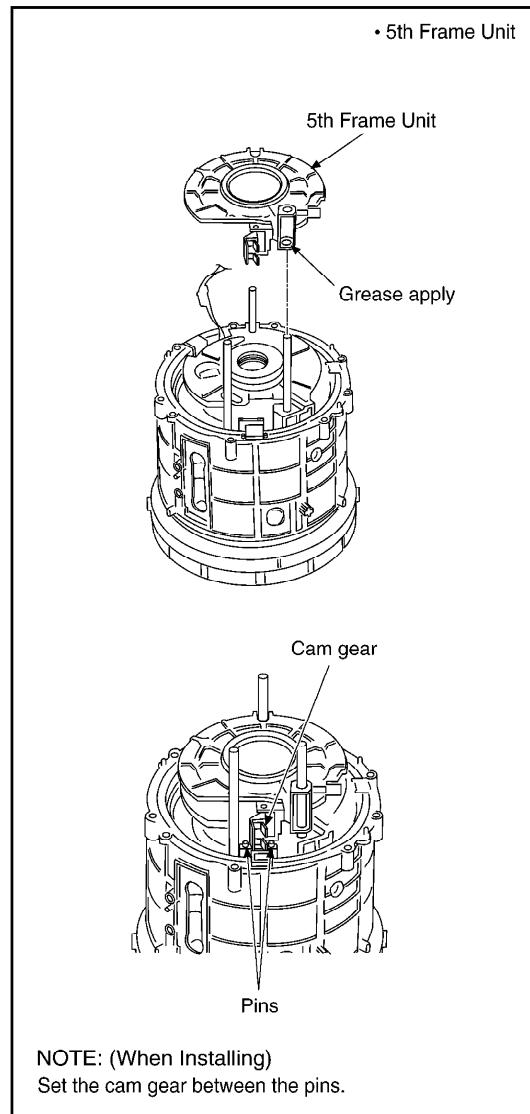


Screw<f>

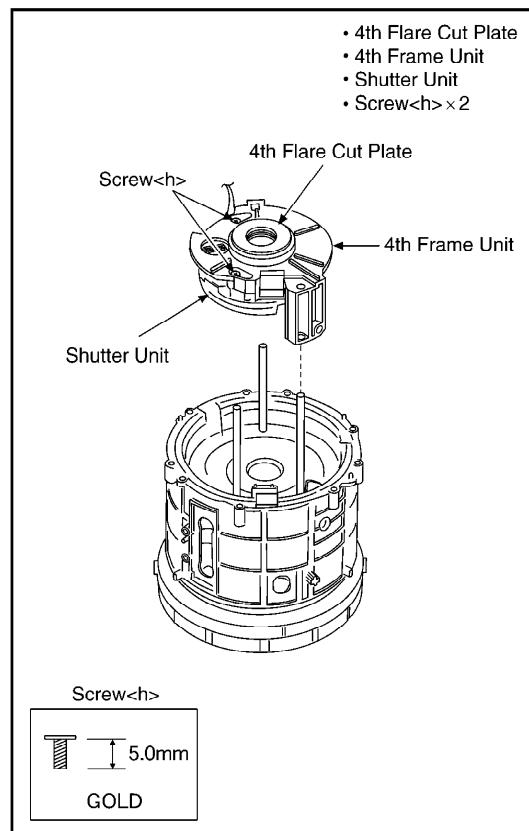




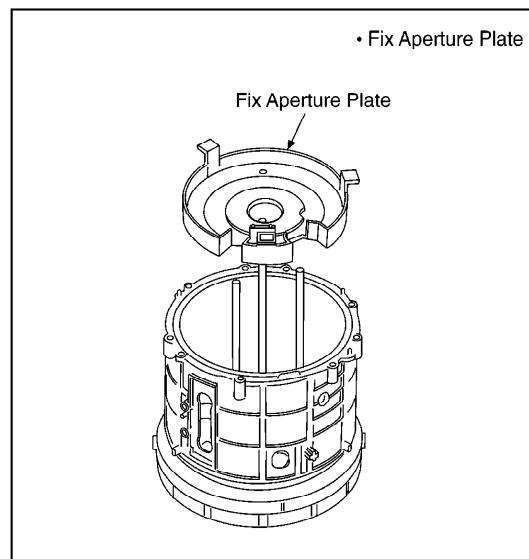
12.4.4. Removal of the 5th Lens Frame Unit



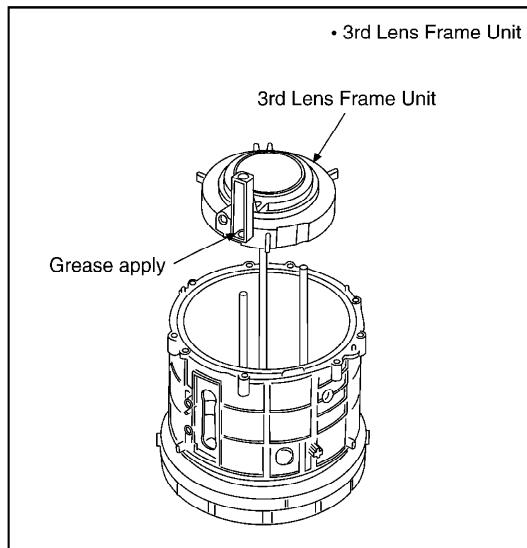
12.4.5. Removal of the Shutter Unit, 4th Flare Cut Plate and 4th Lens Flame Unit



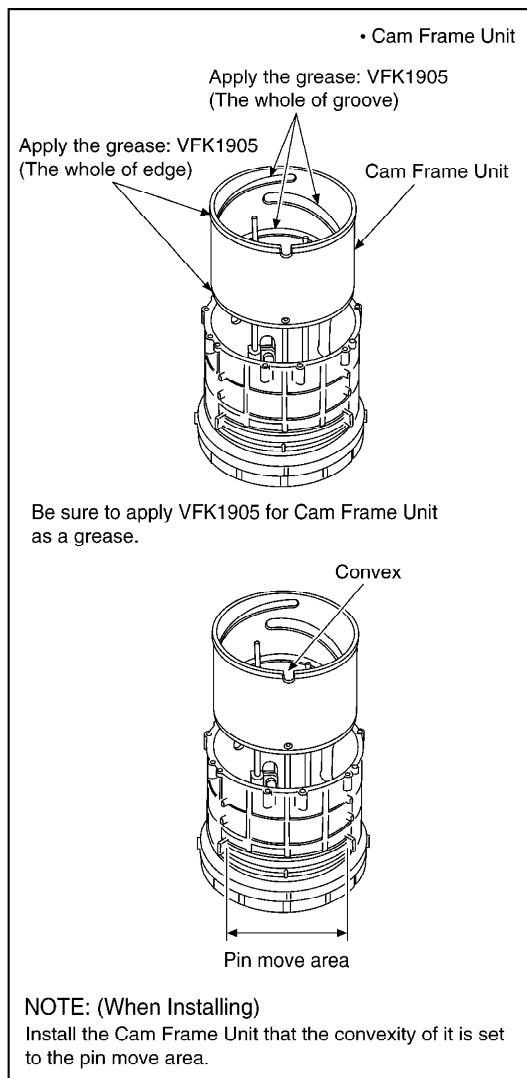
12.4.6. Removal of the Fix Aperture Plate



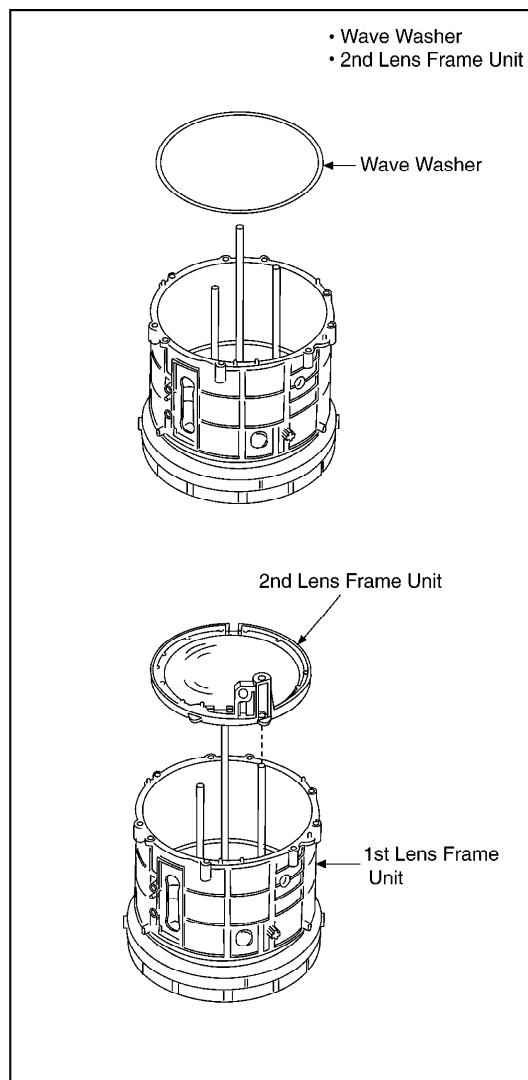
12.4.7. Removal of the 3rd Lens Frame Unit



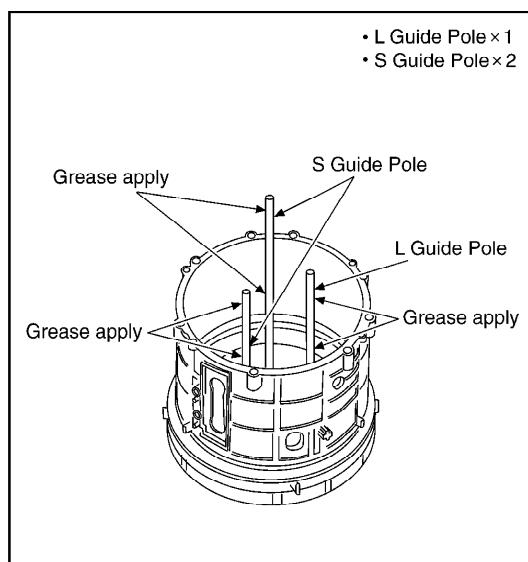
12.4.8. Removal of the Cam Frame Unit



12.4.9. Removal of the 2nd Lens Frame Unit



12.4.10. Removal of the L and S Guide Pole



13. SCHEMATIC DIAGRAMS

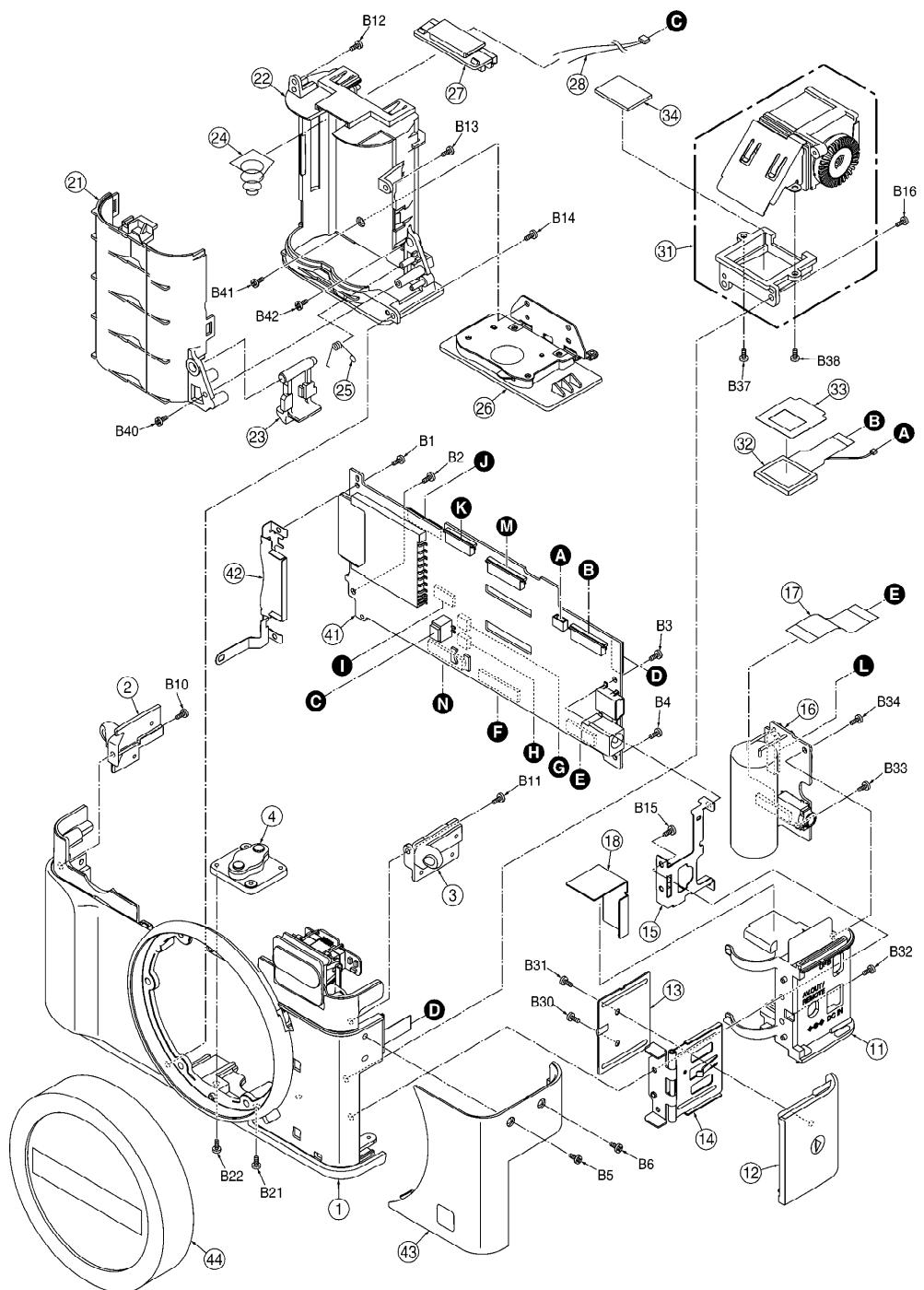
- 13.1. OVER ALL BLOCK DIAGRAM**
- 13.2. WIRING CONNECTION DIAGRAM**
- 13.3. AF SENSOR SCHEMATIC DIAGRAM**
- 13.4. JACK-FLASH SCHEMATIC DIAGRAM**
- 13.5. HOT SHOE FPC SCHEMATIC DIAGRAM**
- 13.6. CCD SCHEMATIC DIAGRAM**
- 13.7. TOP OPERATION SCHEMATIC DIAGRAM**
- 13.8. REAR OPERATION SCHEMATIC DIAGRAM**
- 13.9. LENS FLEX SCHEMATIC DIAGRAM**

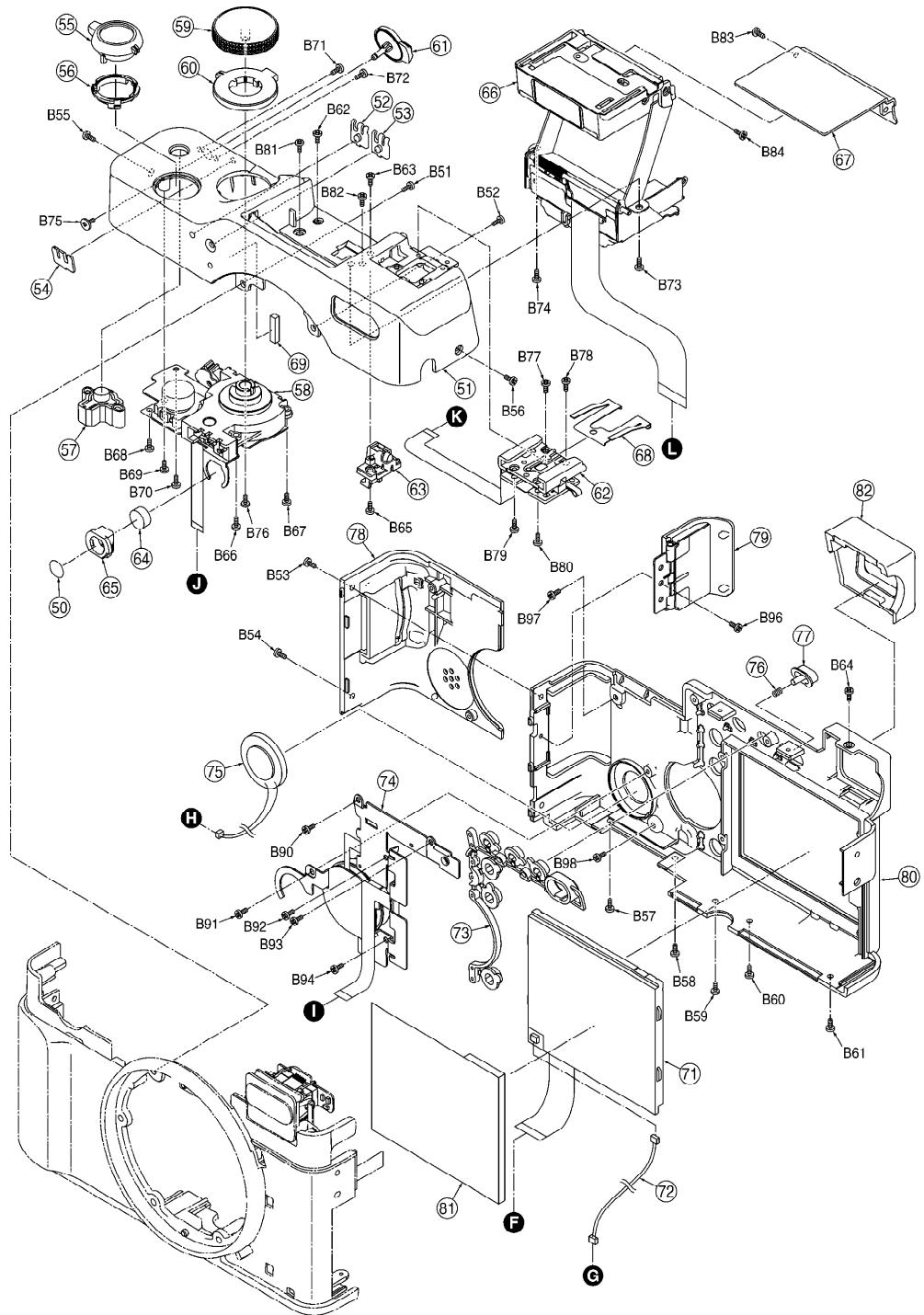
14. CIRCUIT BOARD ASSEMBLIES

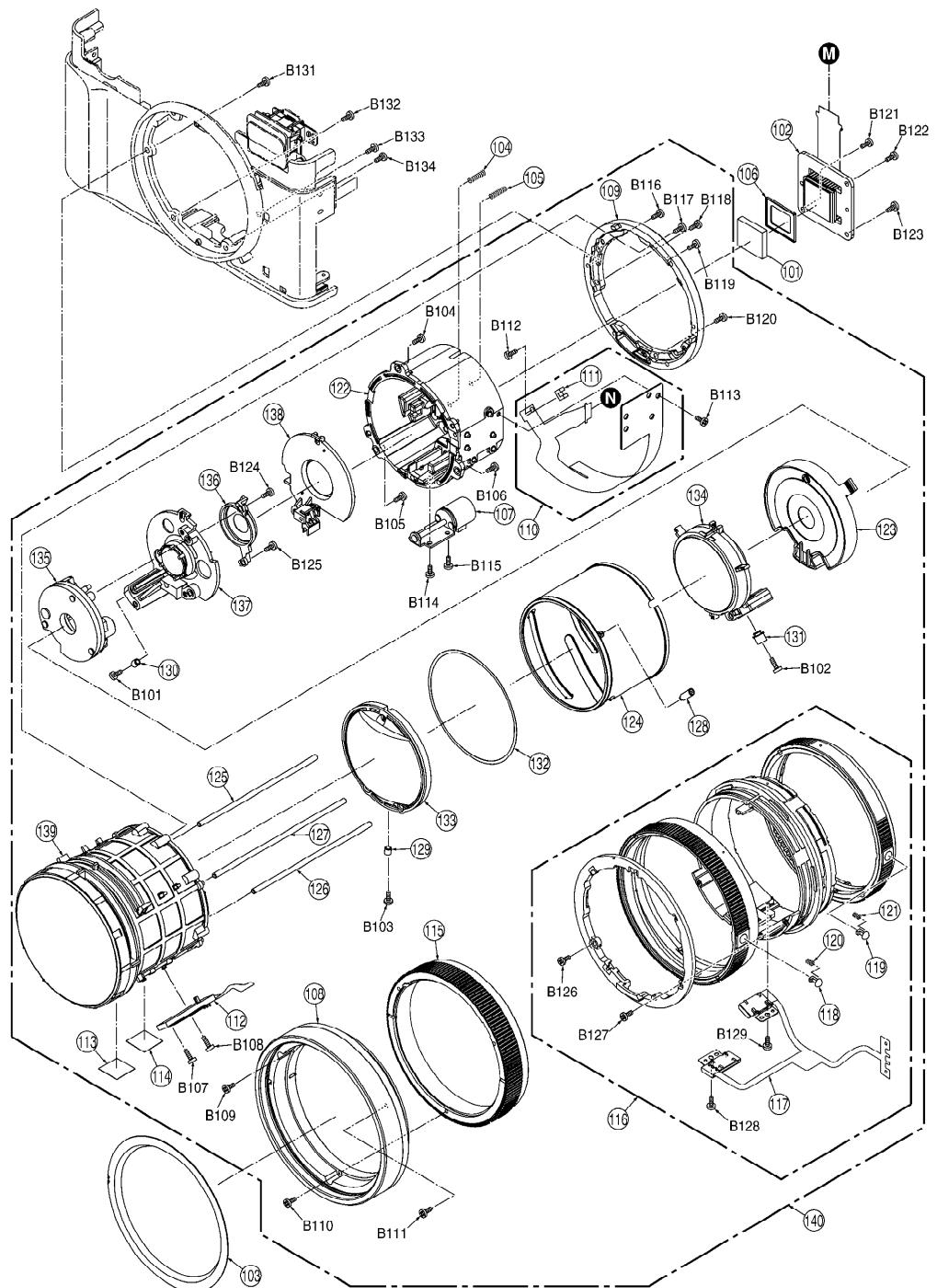
- 14.1. JACK-FLASH C.B.A.**
- 14.2. CCD C.B.A.**
- 14.3. LENS FLEX C.B.A.**

15. EXPLODED VIEWS

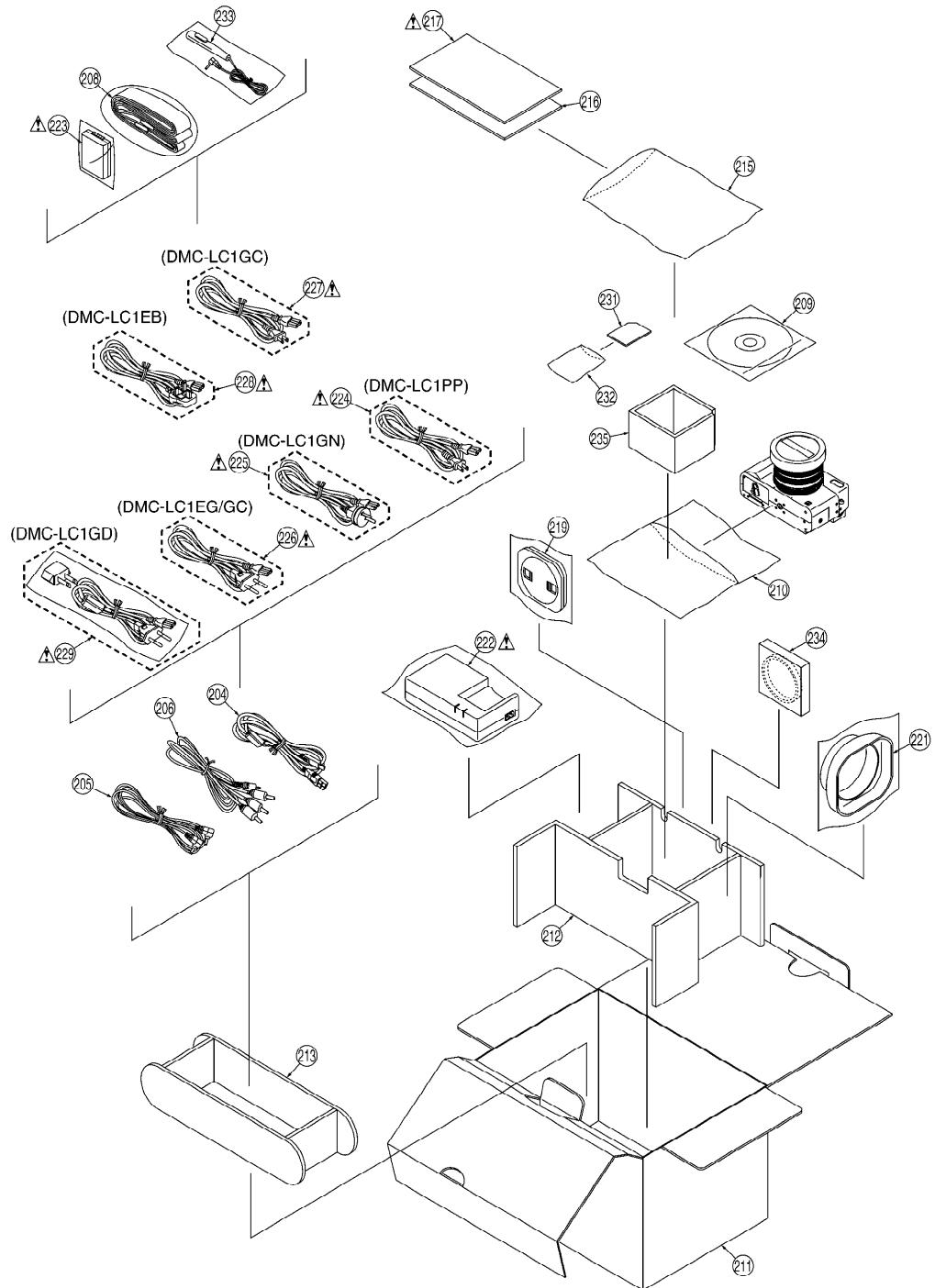
- 15.1. FRAME & CASING SECTION**







15.2. PACKING PARTS & ACCESSORIES SECTION



16. REPLACEMENT PARTS LIST

16.1. MECHANICAL REPLACEMENT PARTS LIST

Note: 1.* Be sure to make your orders of replacement parts according to this list.
 2. **IMPORTANT SAFETY NOTICE**
 Components identified with the mark  have the special characteristics for safety.
 When replacing any of these components, use only the same type.
 3. The marking/RTL indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

16.1.1. FRAME & CASING SECTION PARTS LIST

Definition of Parts supplier:

1. Parts marked with [AVC-SPC] in the remarks column are supplied from AVC COMPANY CS (AVC-SPC). Others are supplied from MKE SAIJYO (MKE).

Ref. No.	Part No.	Part Name & Description	Remarks
1	VYK1H89	FRONT CASE UNIT	
2	VGQ7553	STRAP HOLDER L	
3	VGQ7554	STRAP HOLDER R	
4	VYQ3167	TRIPOD PIECE	
11	VGQ7562	JACK PANEL	
12	VKF3801	JACK DOOR	
13	VMA0R63	JACK DOOR COVER	
14	VYF2961	JACK DOOR HINGE UNIT	
15	VMP7828	JACK EARTH PLATE	
16	VEP58004A	JACK-FLASH C.B.A.	[RTL]
17	VWJ1705	MAIN-FLASH FLEX.(20PIN)	
18	VMZ3443	FLASH PCB BARRIER	
21	VGQ6533	BATTERY CASE A	
22	VGQ6532	BATTERY CASE B	
23	VGU8984	BATTERY LOCK KNOB	
24	VMB3572	BATTERY SPRING	
25	VMB3573	BATTERY LOCK SPRING	
26	VYF2966	BATTERY COVER UNIT	
27	K1ZZ00001285	BATTERY CATCHER	
28	VEE0Z24	BATTERY CAT. CONNECTOR / UNIT	
31	VYQ2821	EVF UNIT	
32	L5EDDXM00001	EVF LCD MODULE	
33	VGQ7732	LCD MASK	
34	VGQ7735	EVF LCD CUSHION	
41	VEP56010A	MAIN C.B.A.	[RTL]
42	VMP7880	SD SHIELD PLATE	
43	VYK1H93	GRIP PIECE FRONT R UNIT	
44	VYK1F94	LENS CAP UNIT	
50	VGQ8089	MIC FILTER	
51	VYK1H88	TOP CASE UNIT	
52	VGL1071	SELTIMER LED PANEL	
53	VGL1071	SELTIMER LED PANEL	
54	VGL1072	POWER LED PANEL	
55	VGU9477	EXPOSE LEVER	
56	VGQ7547	EXPOSE PIECE	
57	VGU9478	TOP OPERATION BUTTON	
58	K0RB00600002	TOP OPERATION	
59	VXU1627	SHUTTER DIAL UNIT	
60	VGU9480	MODE DIAL	
61	VGU9481	POWER KNOB	
62	VEK0F58	HOT SHOE UNIT	
63	VXL3248	SHOE LOCK UNIT	
64	WM-64BCT	MICROPHONE	
65	VGQ7574	MIC HOLDER	

Ref. No.	Part No.	Part Name & Description	Remarks
66	VEK0E15	FLASH UNIT	
67	VKM6261	FLASH TOP CASE	
68	VMC1911	SHOE SPRING	
69	VGQ8048	LED SPACER	
71	L5BDDYM00012	LCD MODULE UNIT	
72	VEE0Z23	LCD B/L CONNECTOR UNIT	
73	VGU9482	REAR OPERATION BUTTON	
74	K0RB00800002	REAR OPERATION	
75	L0AA02A00044	SPEAKER UNIT	
76	VMB3863	FLASH OPEN SPRING	
77	VGU9483	FLASH KNOB	
78	VGQ7557	GRIP PIECE REAR	
79	VYF2965	SD DOOR UNIT	
80	VYK1H90	REAR CASE UNIT	
81	VGQ7928	LCD BARRIER	
82	VGQ7563	EVF COVER	
101	VDL1512A	OPTICAL FILTER	[AVC-SPC]
102	VEK0F72	CCD C.B.A.	[AVC-SPC]
103	VGH4766	DECORATION RING	[AVC-SPC]
104	VMB3874	SPRING	[AVC-SPC]
105	VMB3874	SPRING	[AVC-SPC]
106	VMX3381	CCD CUSHION	[AVC-SPC]
107	10S1F10F7NK	FOCUS MOTOR U	[AVC-SPC]
108	VDW0987	FILTER HOOD	[AVC-SPC]
109	VDW0991	UNIT FIX LING	[AVC-SPC]
110	VEK0F73	LENS FLEX CARD	[AVC-SPC]
111	B3NAA0000074	PHOTO SENSOR	[AVC-SPC]
112	VEK0G24	ZE FLEX U	[AVC-SPC]
113	VQL1A56	SHEET	[AVC-SPC]
114	VQL1A56	SHEET	[AVC-SPC]
115	VXQ1203	ZOOM RING	[AVC-SPC]
116	VXQ1204	FI RING U	[AVC-SPC]
117	VEK0G25	FI FLEX U	[AVC-SPC]
118	VGU9507	PUSH BUTTON	[AVC-SPC]
119	VGU9507	PUSH BUTTON	[AVC-SPC]
120	VMB3965	PUSH BUTTON SPRING	[AVC-SPC]
121	VMB3965	PUSH BUTTON SPRING	[AVC-SPC]
122	VDW0984	MASTER FLANGE	[AVC-SPC]
123	VDW0985	FIX APERTURE PLATE	[AVC-SPC]
124	VDW0986	CAM FRAME	[AVC-SPC]
125	VMS7461	S-GUIDE POLE	[AVC-SPC]
126	VMS7461	S-GUIDE POLE	[AVC-SPC]
127	VMS7477	L-GUIDE POLE	[AVC-SPC]
128	VMS7488	CAM FRAME PIN	[AVC-SPC]
129	VMX3234	2G CAM COLLAR	[AVC-SPC]
130	VMX3234	2G CAM COLLAR	[AVC-SPC]
131	VMX3379	3G CAM COLLAR	[AVC-SPC]
132	VMX3382	WAVE WASHER	[AVC-SPC]
133	VXP2345	2ND LENS FRAME U	[AVC-SPC]
134	VXP2346	3RD LENS FRAME U	[AVC-SPC]
135	L9ZZ00000204	SUTTER U	[AVC-SPC]
136	VDW1039	4TH FLARE CUT PLATE	[AVC-SPC]
137	VXP2350	4TH FRAME U	[AVC-SPC]
138	VXP2348	5TH FRAME U	[AVC-SPC]

Ref. No.	Part No.	Part Name & Description	Remarks
139	VXQ1206	BODY U	[AVC-SPC]
140	VXW0659	LENS UNIT	[AVC-SPC]
B1	XQN16+BJ4FN	SCREW,STEEL	
B2	XQN16+BJ4FN	SCREW,STEEL	
B3	XQN16+BJ4FN	SCREW,STEEL	
B4	XQN16+BJ4FN	SCREW,STEEL	
B5	XQN16+B5FZ	SCREW,STEEL	
B6	XQN16+B5FZ	SCREW,STEEL	
B10	XQN16+B35FN	SCREW,STEEL	
B11	XQN16+B35FN	SCREW,STEEL	
B12	XQN16+B35FN	SCREW,STEEL	
B13	XQN16+B35FN	SCREW,STEEL	
B14	XQN16+B35FN	SCREW,STEEL	
B15	XQN16+B35FN	SCREW,STEEL	
B16	XQN16+B35FN	SCREW,STEEL	
B21	XQN16+B35FZ	SCREW,STEEL	
B22	XQN16+B35FZ	SCREW,STEEL	
B30	VHD1501	SCREW,STEEL	
B31	VHD1501	SCREW,STEEL	
B32	XQN16+B35FN	SCREW,STEEL	
B33	XQN16+B35FN	SCREW,STEEL	
B34	XQN16+BJ4FN	SCREW,STEEL	
B37	XQN16+BJ4FN	SCREW,STEEL	
B38	XQN16+BJ4FN	SCREW,STEEL	
B40	XQN16+B35FN	SCREW,STEEL	
B41	XQN16+B2FZ	SCREW,STEEL	
B42	XQN16+B2FZ	SCREW,STEEL	
B51	XQN2+B5FN	SCREW,STEEL	
B52	XQN2+B5FN	SCREW,STEEL	
B53	XQN16+B5FZ	SCREW,STEEL	
B54	XQN16+B5FZ	SCREW,STEEL	
B55	XQN16+B35FZ	SCREW,STEEL	
B56	XQN16+B35FZ	SCREW,STEEL	
B57	XQN16+B35FZ	SCREW,STEEL	
B58	XQN16+B35FZ	SCREW,STEEL	
B59	XQN16+B35FZ	SCREW,STEEL	
B60	XQN16+B35FZ	SCREW,STEEL	
B61	XQN16+B35FZ	SCREW,STEEL	
B62	VHD1566	SCREW,STEEL	
B63	VHD1566	SCREW,STEEL	
B64	XQN16+B2FZ	SCREW,STEEL	
B65	XQN16+B35FN	SCREW,STEEL	
B66	XQN16+B35FN	SCREW,STEEL	
B67	XQN16+B35FN	SCREW,STEEL	
B68	XQN16+B35FN	SCREW,STEEL	
B69	XQN16+B35FN	SCREW,STEEL	
B70	XQN16+B35FN	SCREW,STEEL	
B71	XQN14+AG45FZ	SCREW,STEEL	
B72	XQN14+AG45FZ	SCREW,STEEL	
B73	XQN16+B2FZ	SCREW,STEEL	
B74	XQN16+B2FZ	SCREW,STEEL	
B75	VHD1668	SCREW,STEEL	
B76	XQN16+BJ35FN	SCREW,STEEL	

Ref. No.	Part No.	Part Name & Description	Remarks
B77	XQN16+B45FN	SCREW,STEEL	
B78	XQN16+B45FN	SCREW,STEEL	
B79	XQN16+B45FN	SCREW,STEEL	
B80	XQN16+B45FN	SCREW,STEEL	
B81	VHD1566	SCREW,STEEL	
B82	VHD1566	SCREW,STEEL	
B83	XQN16+B35FZ	SCREW,STEEL	
B84	XQN16+B35FZ	SCREW,STEEL	
B90	XQN16+B2FZ	SCREW,STEEL	
B91	XQN16+B2FZ	SCREW,STEEL	
B92	XQN16+B2FZ	SCREW,STEEL	
B93	XQN16+B2FZ	SCREW,STEEL	
B94	XQN16+B2FZ	SCREW,STEEL	
B96	XQN16+B2FZ	SCREW,STEEL	
B97	XQN16+BJ35FN	SCREW,STEEL	
B98	XQN16+BJ35FN	SCREW,STEEL	
B101	XQN14+AJ5	SCREW,STEEL	[AVC-SPC]
B102	XQN14+AJ5	SCREW,STEEL	[AVC-SPC]
B103	XQN14+AJ5	SCREW,STEEL	[AVC-SPC]
B104	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B105	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B106	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B107	XQN16+BJ3	SCREW,STEEL	[AVC-SPC]
B108	XQN16+BJ3	SCREW,STEEL	[AVC-SPC]
B109	XQN16+C8	SCREW,STEEL	[AVC-SPC]
B110	XQN16+C8	SCREW,STEEL	[AVC-SPC]
B111	XQN16+C8	SCREW,STEEL	[AVC-SPC]
B112	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B113	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B114	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B115	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B116	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B117	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B118	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B119	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B120	XQN20+CJ7	SCREW,STEEL	[AVC-SPC]
B121	VHD1634	SCREW,STEEL	[AVC-SPC]
B122	VHD1634	SCREW,STEEL	[AVC-SPC]
B123	VHD1634	SCREW,STEEL	[AVC-SPC]
B124	XQN16+CJ5	SCREW,STEEL	[AVC-SPC]
B125	XQN16+CJ5	SCREW,STEEL	[AVC-SPC]
B126	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B127	XQN16+CJ4	SCREW,STEEL	[AVC-SPC]
B128	XQN16+BJ3	SCREW,STEEL	[AVC-SPC]
B129	XQN16+BJ3	SCREW,STEEL	[AVC-SPC]
B131	XQN2+B5FN	SCREW,STEEL	
B132	XQN2+B5FN	SCREW,STEEL	
B133	XQN2+B5FN	SCREW,STEEL	
B134	XQN2+B5FN	SCREW,STEEL	

16.1.2. PACKING PARTS & ACCESSORIES SECTION PARTS LIST

Definition of Model & Marks:

Be sure to specifying the parts by referring the following the “COMPARISON CHART OF MODEL & MARKS”.

Definition of Parts supplier:

1. Parts marked with [AVC-SPC] in the remarks column are supplied from AVC COMPANY CS (AVC-SPC). Others are supplied from MKE SAIJYO (MKE).

Ref. No.	Part No.	Part Name & Description	Remarks
204	K1HA05CD0004	USB CABLE W/PLUG	[AVC-SPC]
205	K2GH2DB0003	DC CABLE W/PLUG	[AVC-SPC]
206	K1V204C10001	AV CABLE W/PLUG	[AVC-SPC]
208	VFC4037	STRAP	
209	VFF0240-S	CD-ROM	[AVC-SPC] / DMC-LC1PP
209	VFF0241-S	CD-ROM	[AVC-SPC] / DMC-LC1EG / EB/GC/GN/GD
210	VPF1193	CAMERA BAG,POLYETHYLENE	
211	VPK2803	PACKING CASE,PAPER	DMC-LC1PP
211	VPK2804	PACKING CASE,PAPER	DMC-LC1EG / EB/GC/GN/GD
212	VPN6111	CUSHION,PAPER	
213	VPN6192	BOTTOM PAD	
215	VPF1100	BAG,POLYETHYLENE	[AVC-SPC] / DMC-LC1PP / EB /GN/GD
215	VPF1132	BAG,POLYETHYLENE	[AVC-SPC] / DMC-LC1EG/GC
216	VQT0L11	INSTRUCTION BOOK// APPLICATION / (ENGLISH/ FRENCH)	[AVC-SPC] / DMC-LC1PP
216	VQT0L18	INSTRUCTION BOOK// APPLICATION / (GERMAN/ FRENCH)	[AVC-SPC] / DMC-LC1EG
216	VQT0L19	INSTRUCTION BOOK// APPLICATION / (SPANISH/ ITALIAN)	[AVC-SPC] / DMC-LC1EG
216	VQT0L20	INSTRUCTION BOOK// APPLICATION / (DUTCH/ PORTUGESESE)	[AVC-SPC] / DMC-LC1EG
216	VQT0L21	INSTRUCTION BOOK// APPLICATION / (SWEDISH/ DANISH)	[AVC-SPC] / DMC-LC1EG
216	VQT0L17	INSTRUCTION BOOK// APPLICATION (ENGLISH)	[AVC-SPC] / DMC-LC1EB
216	VQT0L14	INSTRUCTION BOOK// APPLICATION / (CHINESE(TRADITIONAL)/ ENGLISH)	[AVC-SPC] / DMC-LC1GC
216	VQT0L15	INSTRUCTION BOOK// APPLICATION / (RUSSIAN/ ARABIC)	[AVC-SPC] / DMC-LC1GC
216	VQT0L16	INSTRUCTION BOOK// APPLICATION / (CHINESE(SIMPLIFIED))	[AVC-SPC] / DMC-LC1GC
216	VQT0L13	INSTRUCTION BOOK// APPLICATION (KOREA)	[AVC-SPC] / DMC-LC1GD
216	VQT0L22	INSTRUCTION BOOK// APPLICATION (ENGLISH)	[AVC-SPC] / DMC-LC1GN
217	VQT0G87	INSTRUCTION BOOK / (ENGLISH)	▲[AVC-SPC] / DMC-LC1PP
217	VQT0G88	INSTRUCTION BOOK (FRENCH)	▲[AVC-SPC] / DMC-LC1PP
217	VQT0H03	INSTRUCTION BOOK (DUTCH)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H02	INSTRUCTION BOOK / (ITALIAN)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0G99	INSTRUCTION BOOK (GERMAN)	▲[AVC-SPC] / DMC-LC1EG

Ref. No.	Part No.	Part Name & Description	Remarks
217	VQT0H00	INSTRUCTION BOOK (FRENCH)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H01	INSTRUCTION BOOK / (SPANISH)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H04	INSTRUCTION BOOK / (PORTUGUESE)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H05	INSTRUCTION BOOK / (SWEDISH)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H06	INSTRUCTION BOOK (DANISH)	▲[AVC-SPC] / DMC-LC1EG
217	VQT0H07	INSTRUCTION BOOK / (ENGLISH)	▲[AVC-SPC] / DMC-LC1EB
217	VQT0G93	INSTRUCTION BOOK / (ENGLISH)	▲[AVC-SPC] / DMC-LC1GC
217	VQT0G94	INSTRUCTION BOOK / (CHINESE(TRADITIONAL))	▲[AVC-SPC] / DMC-LC1GC
217	VQT0G95	INSTRUCTION BOOK / (CHINESE(SIMPLIFIED))	▲[AVC-SPC] / DMC-LC1GC
217	VQT0G96	INSTRUCTION BOOK (ARABIC)	▲[AVC-SPC] / DMC-LC1GC
217	VQT0G97	INSTRUCTION BOOK / (RUSSIAN)	▲[AVC-SPC] / DMC-LC1GC
217	VQT0G98	INSTRUCTION BOOK / (ENGLISH)	▲[AVC-SPC] / DMC-LC1GN
217	VQT0G92	INSTRUCTION BOOK (KOREA)	▲[AVC-SPC] / DMC-LC1GD
<u>219</u>	VYK1C96	LENS CAP UNIT	
<u>221</u>	VYQ2884	LENS HOOD	
<u>222</u>	DE-972AA	AC ADAPTOR	▲ / DMC-LC1PP
222	DE-972BA	AC ADAPTOR	▲ / DMC-LC1EG / EB/GN
222	DE-972CA	AC ADAPTOR	▲ / DMC-LC1GC/GD
<u>223</u>	-----	BATTERY	▲
<u>224</u>	K2CA2EA00002	AC CABLE W/PLUG	▲DMC-LC1PP
<u>225</u>	K2CJ2DA00011	AC CABLE W/PLUG	▲DMC-LC1GN
<u>226</u>	K2CR2DA00004	AC CABLE W/PLUG	▲ / K2CQ2DA00002 / DMC-LC1EG/GC
<u>227</u>	K2CA2DA00030	AC CABLE W/PLUG	▲DMC-LC1GC
<u>228</u>	K2CT3DA00003	AC CABLE W/PLUG	▲DMC-LC1EB
<u>229</u>	K2CP2DA00001	AC CABLE W/PLUG	▲DMC-LC1GD
<u>231</u>	RP-SD016BVE0	SD CARD	
<u>232</u>	VPF1092	SD CARD BAG,POLYETHYLENE	[AVC-SPC]
<u>233</u>	VYC0913	WIRED SHUTTER REMOTE / CONTROLLER	
<u>234</u>	VYC0917	MC PROTECTOR	
<u>235</u>	VPN6193	LENS PROTECTION PAD	

16.1.3. SERVICE FIXTURE & TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	VFK1388	EXTENSION CABLE // (12PIN-FFC)	[FP9006 - //REAR / OPERATION / UNIT]
	VFK1284	EXTENSION CABLE // (24PIN-FFC)	[FP9007 - / LENS UNIT]
	VFK1440	EXTENSION CABLE // (10PIN-FFC)	[FP9008 - / AF SENSOR]
	VFK1284	EXTENSION CABLE // (24PIN-FFC)	[FP9009 - / LCD UNIT]
	VFK1576DC04	EXTENSION CABLE // (2PIN-CABLE)	[P9002 - / LCD BL]
	VFK1576DC202	EXTENSION CABLE // (2PIN-CABLE)	[P9004 - / SPEAKER]
	VFK1712	EXTENSION CABLE // (20PIN-FFC)	[FP9003 - / FP8502]
	ERG5SJ102	RESISTOR FOR DISCHARGING	
	VFK1164TDVLB	LIGHT BOX	
	VFK1164TCM02	INFINITY LENS	
	VFK1164ND01	ND FILTER (ND 0.1)	
	VFK1828	COLOR CHART	
	VFK1164LBB1	COLOR TEMP.CONV.FILTER	
	VFK1829	GREASE	
	VFK1835	DOME TYPE MAGNIFYING / GLASS	
	VFK1904	DECOR RING FIXER	
	VFK1905	GREASE	

16.2. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
 2. **IMPORTANT SAFETY NOTICE:** Components identified with the mark \triangle have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified, All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICRO-FARADS(μ F), P= μ UF.
 4. The P.C. Board units marked with "*" show below the main assembled parts.
 5. The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

E.S.D. standards for Electrostatically Sensitive Devices, refer to “PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES” section.

Definition of Parts supplier:

1. Parts marked with [MBI] in the remarks column are supplied from “Matsushita Battery Industrial co., ltd.” Others are supplied from MKE SAIJYO (MKE).

Ref. No.	Part No.	Part Name & Description	Remarks
	VEP56010A	MAIN C.B.A.	E.S.D. [RTL]
	VEP58004A	JACK-FLASH C.B.A.	E.S.D. [RTL]
	VEK0F72	CCD C.B.A.	[AVC-SPC]
		MAIN C.B.A.	[RTL]
		MISCELLANEOUS	
Z9101	ML-614S/ZT	BATTERY	[MBI]
		JACK-FLASH C.B.A.	[RTL]
		CAPACITORS	
C8501	F1K2E223A004	C.CAPACITOR 25V 0.022UF	
C8502	F2A2V1800001	E.CAPACITOR 330V 18UF	
C8503	F1K2J102A010	C.CAPACITOR 6.3V 1000PF	
C8505	F1K1A1060016	C.CAPACITOR 10V 10UF	
C8506	ECJ2YB0J225K	C.CAPACITOR 6.3V 22UF	
C8508	ECJ1VB1C104K	C.CAPACITOR 16V 0.1UF	
C8509	ECJ1VB1C104K	C.CAPACITOR 16V 0.1UF	
C8510	ECST0JY106R	T.CAPACITOR 6.3V 10UF	
C8511	F3F0G107A003	T.CAPACITOR 4V 100UF	
C8512	F1K2E223A004	C.CAPACITOR 25V 0.022UF	
C8513	ECJ2YB1A105K	C.CAPACITOR 10V 1UF	
		DIODES	
D8501	B0HCMP000006	DIODE	
D8502	B0HCGV000001	DIODE	
D8503	B0ECKP000024	DIODE	
		FPC CONNECTORS	
FP8501	K1MN22A00061	CONNECTOR 22P	
FP8502	K1MN20B00028	CONNECTOR 20P	
IC8501	C0CBABB00041	IC, LOGIC(OTHER)	E.S.D.
IC8502	AN13200A-NL	IC, LINEAR	
		JACKS	
JK8502	K2HD104D0001		
		COILS	
L8501	J0JBC0000071	COIL	
L8503	J0JBC0000071	COIL	
L8504	J0JCC0000077	COIL	
LB8501	J0JBC0000044	COIL	
		TRANSISTORS	
Q8501	B1JBLP000004	TRANSISTOR	
Q8502	B1DFCG000010	TRANSISTOR	
		DIGITAL TRANSISTORS	
QR8501	B1GKCFJN0003	TRANSISTOR RESISTOR	

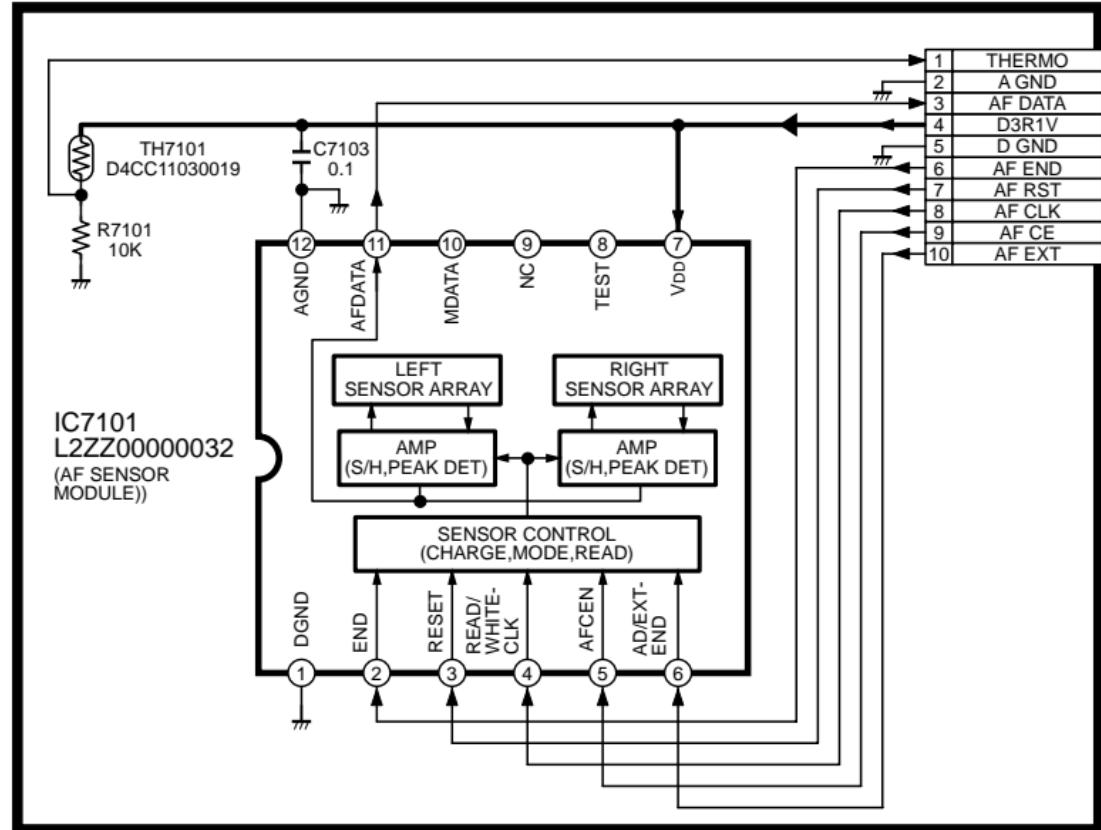
Ref. No.	Part No.	Part Name & Description	Remarks
QR8503	UNR921FJ08	TRANSISTOR RESISTOR PNP	
QR8503	UNR921FJ0L	TRANSISTOR RESISTOR PNP	OR
QR8504	B1GBCFJJ0030	TRANSISTOR RESISTOR PNP	
QR8504	UNR9211J0L	TRANSISTOR RESISTOR PNP	OR
QR8504	UNR9211J08	TRANSISTOR RESISTOR PNP	OR
		RESISTORS	
R8501	ERJ8GEYJ105V	M.RESISTOR CH 1/8W 1M	
R8502	ERJ3GEYJ104V	M.RESISTOR CH 1/16W 100K	
R8503	ERJ6RED105V	M.RESISTOR CH 1/10W 1M	
R8504	ERJ6RED105V	M.RESISTOR CH 1/10W 1M	
R8505	ERJ2RHD153X	M.RESISTOR CH 1/16W 150K	
R8506	ERJ2GEJ153X	M.RESISTOR CH 1/16W 150K	
R8507	ERJ2GEJ472X	M.RESISTOR CH 1/16W 4.7K	
R8508	ERJ8GEYJ220V	M.RESISTOR CH 1/8W 22	
R8509	ERJ8GEYJ224V	M.RESISTOR CH 1/8W 220K	
R8510	ERJ8GEYJ224V	M.RESISTOR CH 1/8W 220K	
R8511	ERJ2GEJ680X	M.RESISTOR CH 1/16W 68	
R8514	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	
R8516	ERJ2GEJ105X	M.RESISTOR CH 1/16W 1M	
R8517	ERJ2GEJ750X	M.RESISTOR CH 1/16W 75	
R8520	ERJ3GEYJ220V	M.RESISTOR CH 1/16W 22	
R8521	ERJ3GEYJ101V	M.RESISTOR CH 1/16W 100	
R8522	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	
		TRANSFORMER	
T8501	G5D1A0000030	TRANSFORMER	
		CCD C.B.A.	[AVC-SPC]
		CAPACITORS	
C3001	F1J1C105A118	C.CAPACITOR CH 16V 1UF	[AVC-SPC]
C3002	F1K1A1060016	C.CAPACITOR CH 10V 10UF	[AVC-SPC]
C3003	ECJ1VB1C104K	C.CAPACITOR CH 16V 0.1UF	[AVC-SPC]
		TRANSISTORS	
Q3001	2SC4627J0L	TRANSISTOR NPN	[AVC-SPC]
		RESISTORS	
R3003	ERJ2GEJ150X	M.RESISTOR CH 1/16W 15	[AVC-SPC]
R3002	ERJ2GEJ332X	M.RESISTOR CH 1/16W 3.3K	[AVC-SPC]
R3001	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	[AVC-SPC]

17. SCHEMATIC DIAGRAM FOR PRINTING WITH A4 SIZE

◆ AF SENSOR SCHEMATIC DIAGRAM

→ : POSITIVE VOLTAGE LINE

C



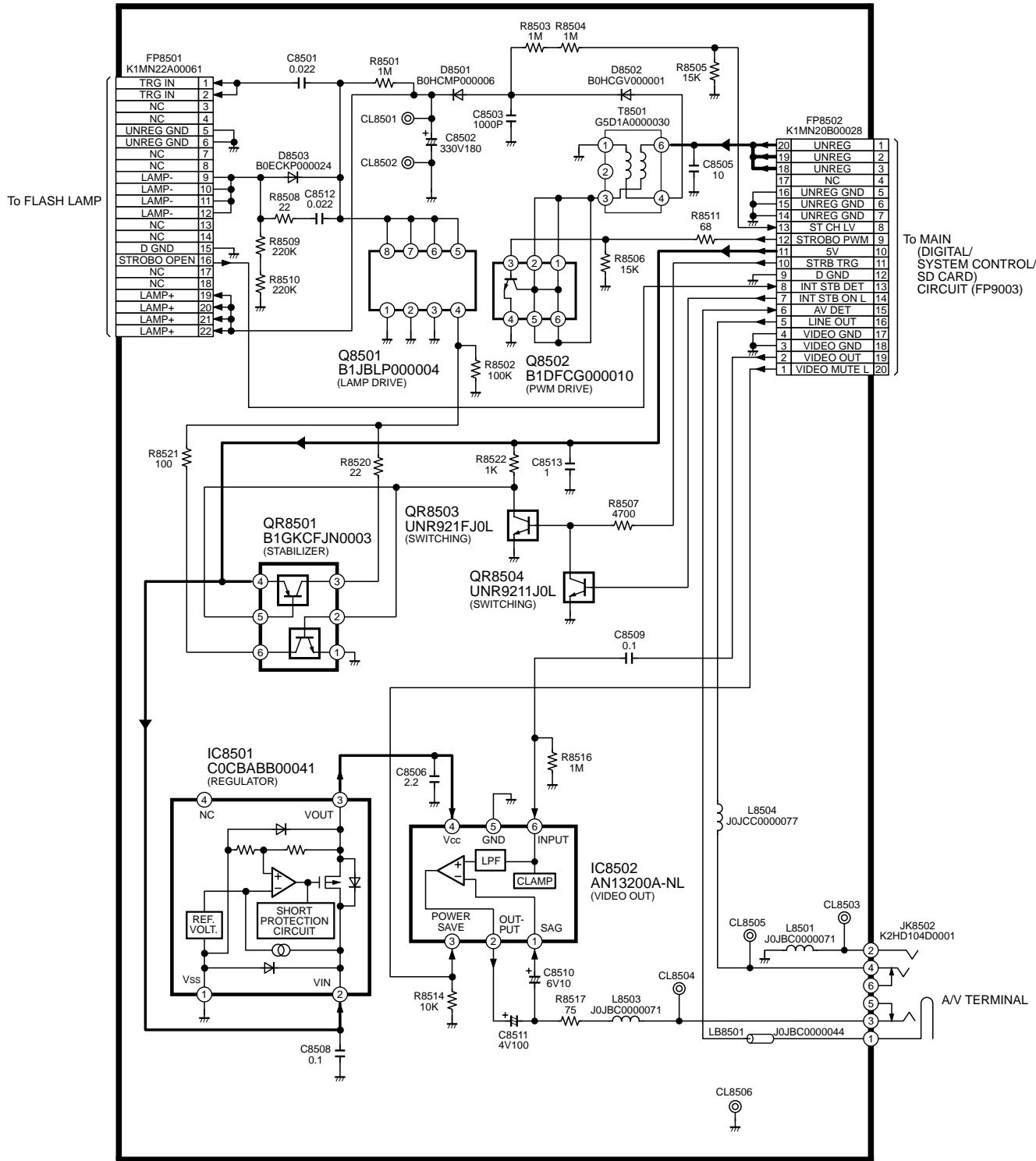
To MAIN
(DIGITAL/SYSTEM CONTROL/
SD CARD)
CIRCUIT (FP9008)

B

A

◆ JACK FLASH CIRCUIT

— : POSITIVE VOLTAGE LINE

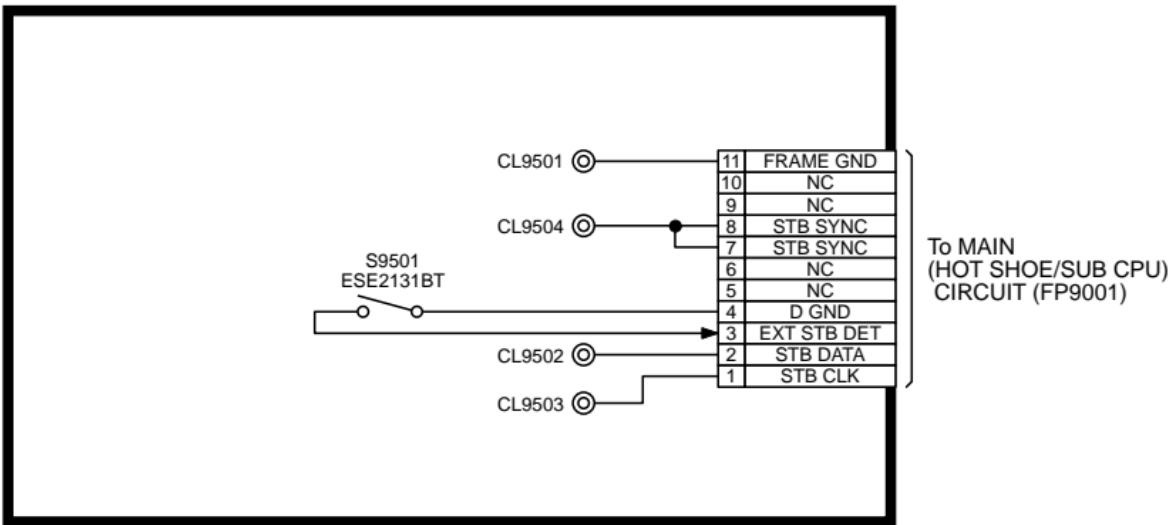


C

◆ HOT SHOE FPC SCHEMATIC DIAGRAM

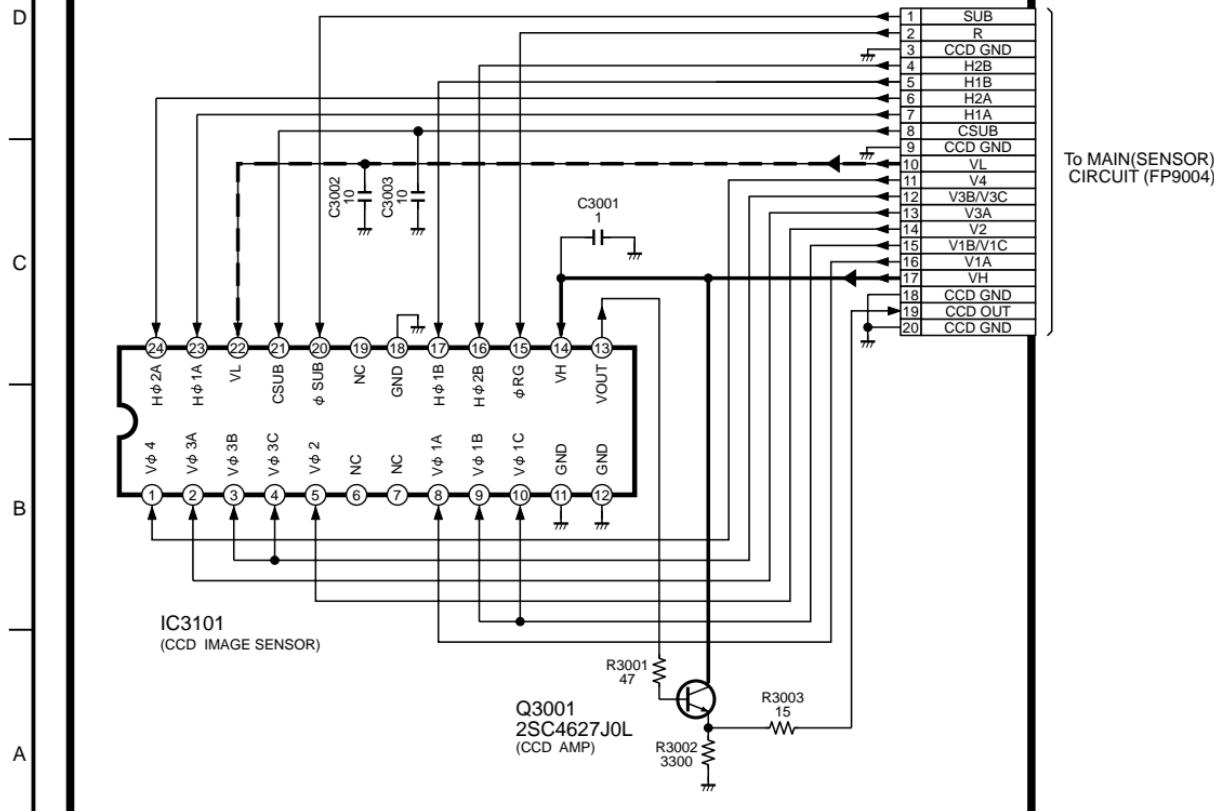
B

A

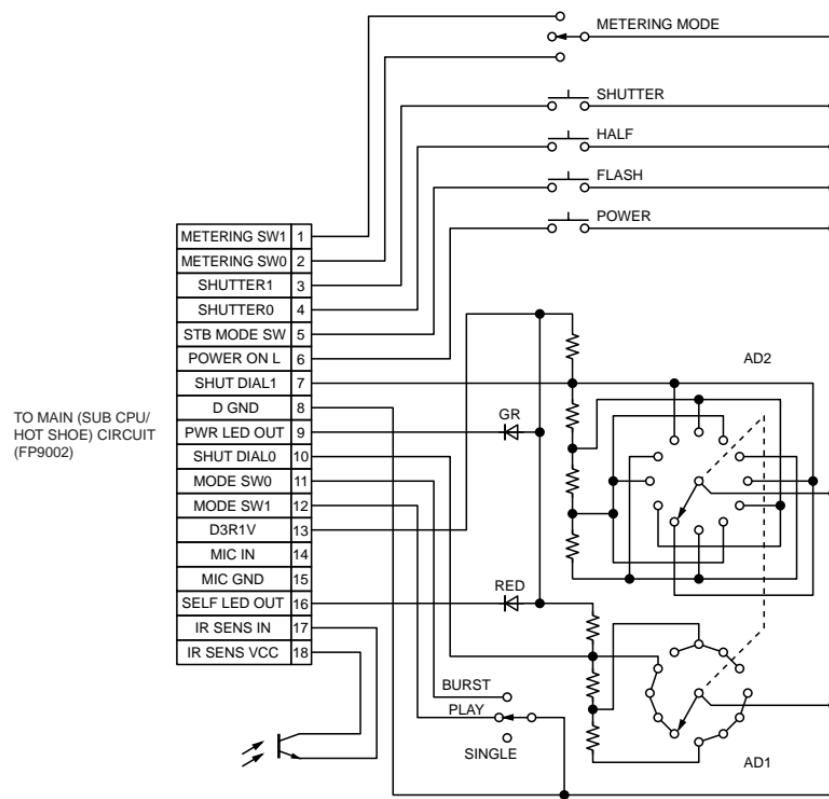


◆ CCD SCHEMATIC DIAGRAM

→ : POSITIVE VOLTAGE LINE - - - : NEGATIVE VOLTAGE LINE



◆ TOP OPERATION SCHEMATIC DIAGRAM



◆ REAR OPERATION SCHEMATIC DIAGRAM

C

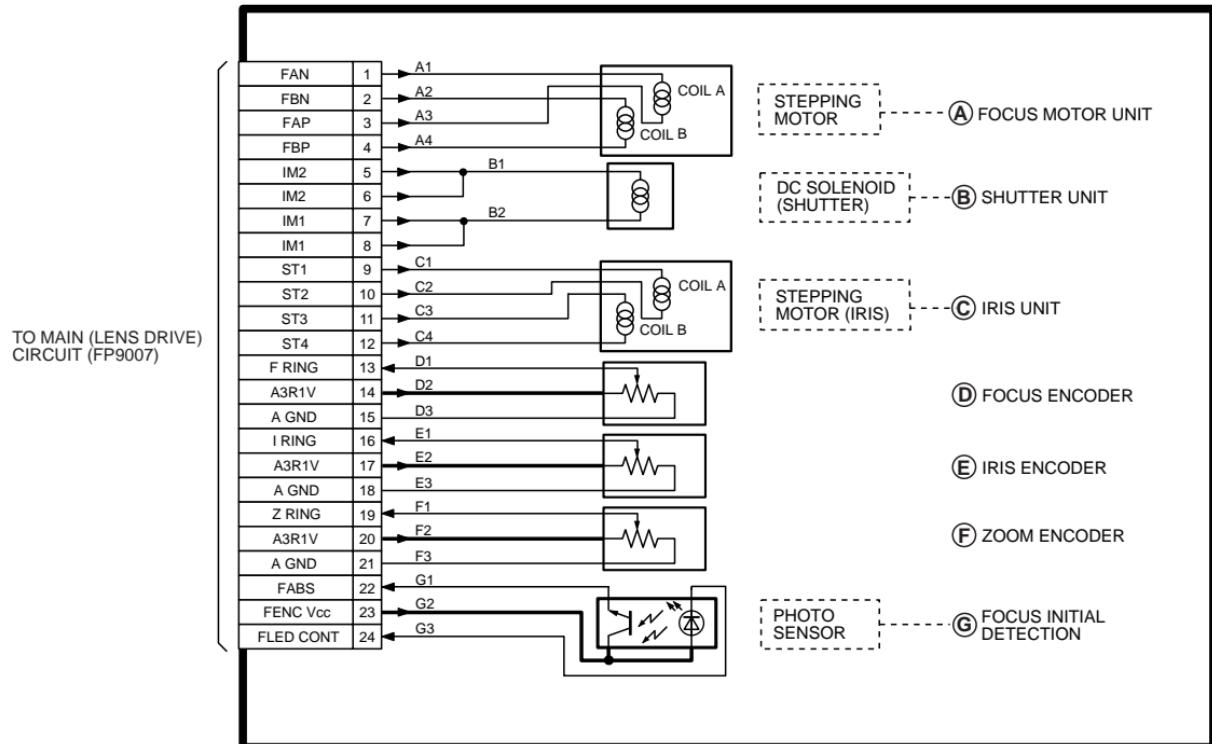
TO MAIN (SUB CPU/
HOT SHOE) CIRCUIT
(FP9006)

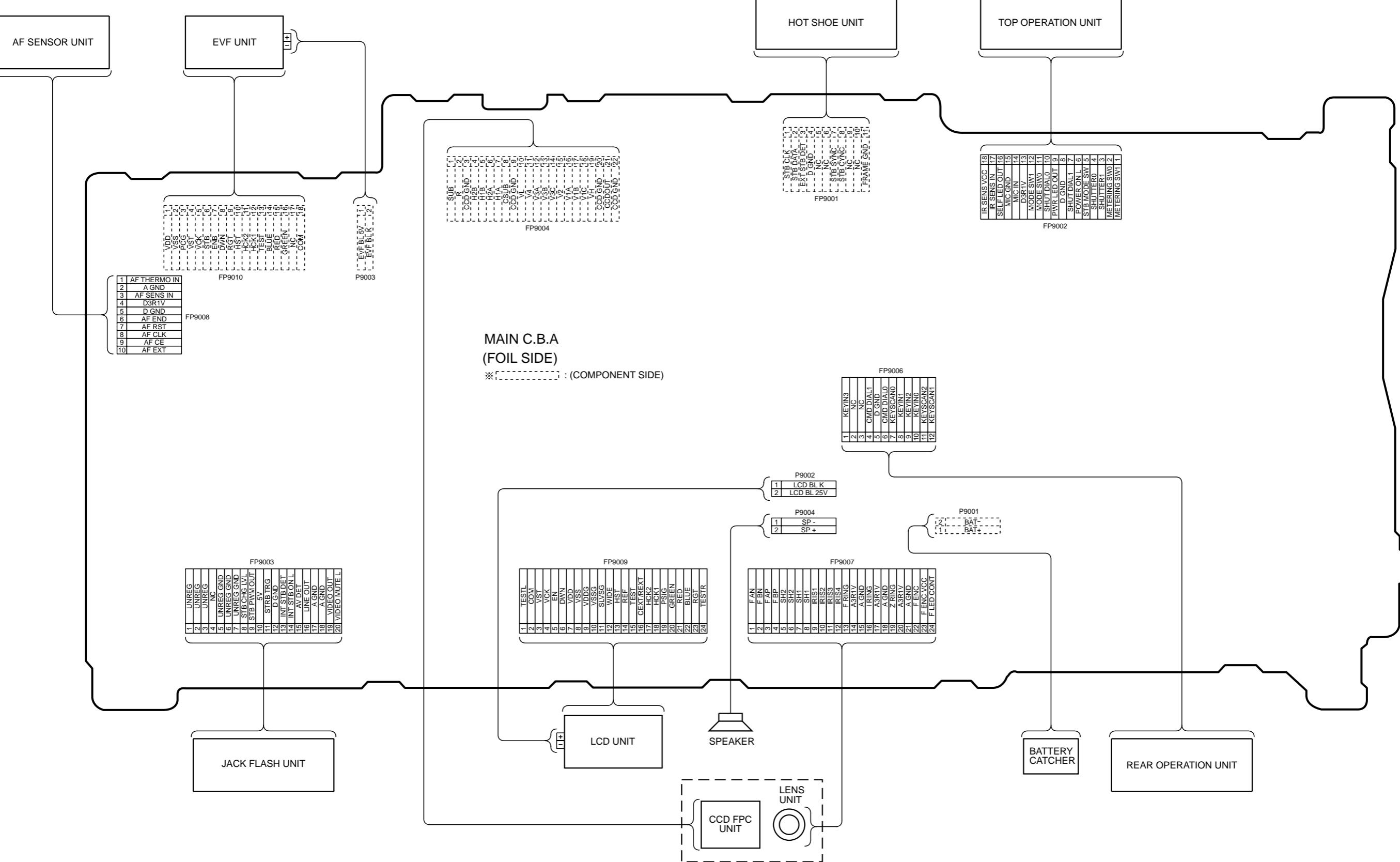
B

A

◆ LENS FLEX SCHEMATIC DIAGRAM

→ : POSITIVE VOLTAGE LINE

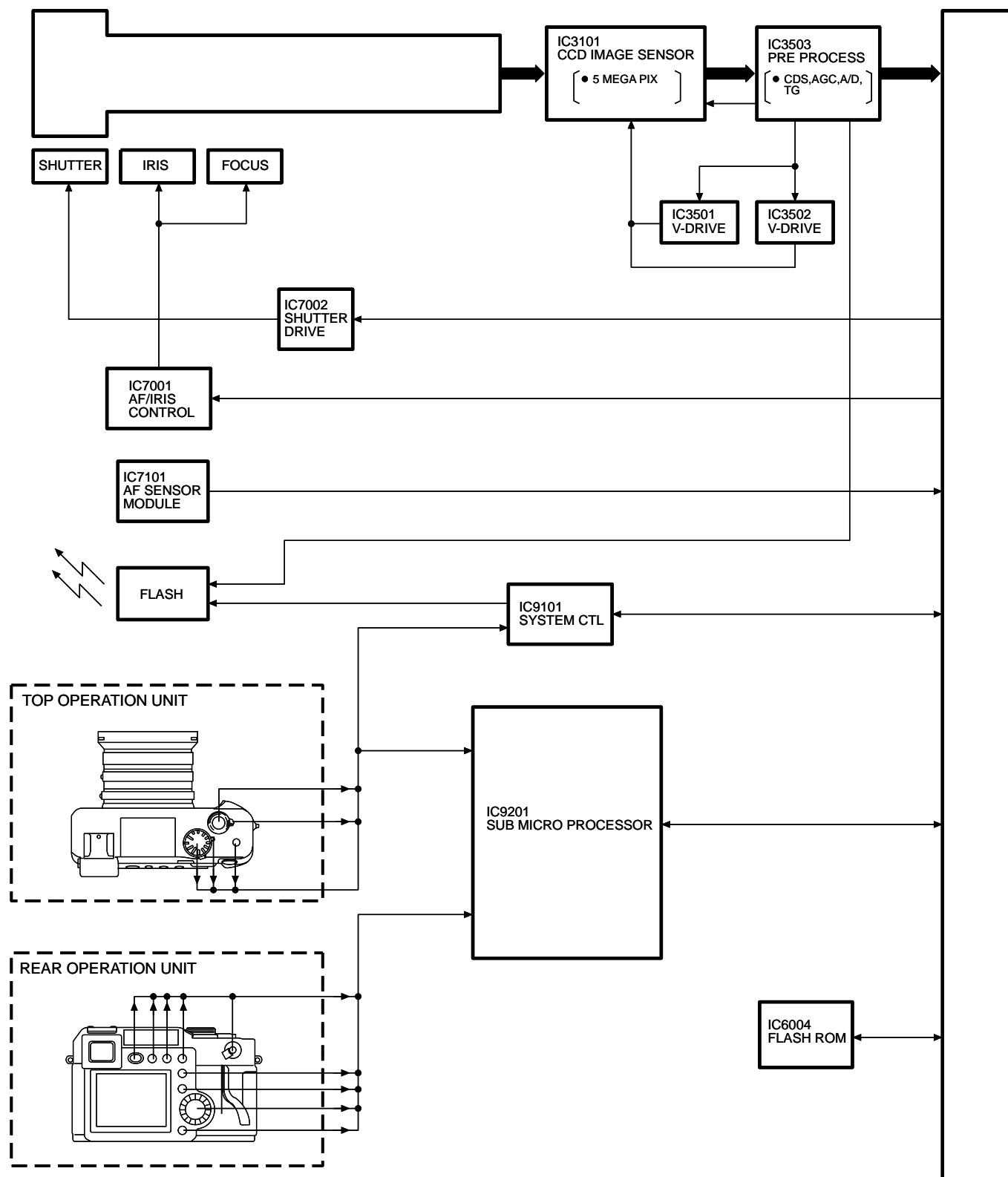


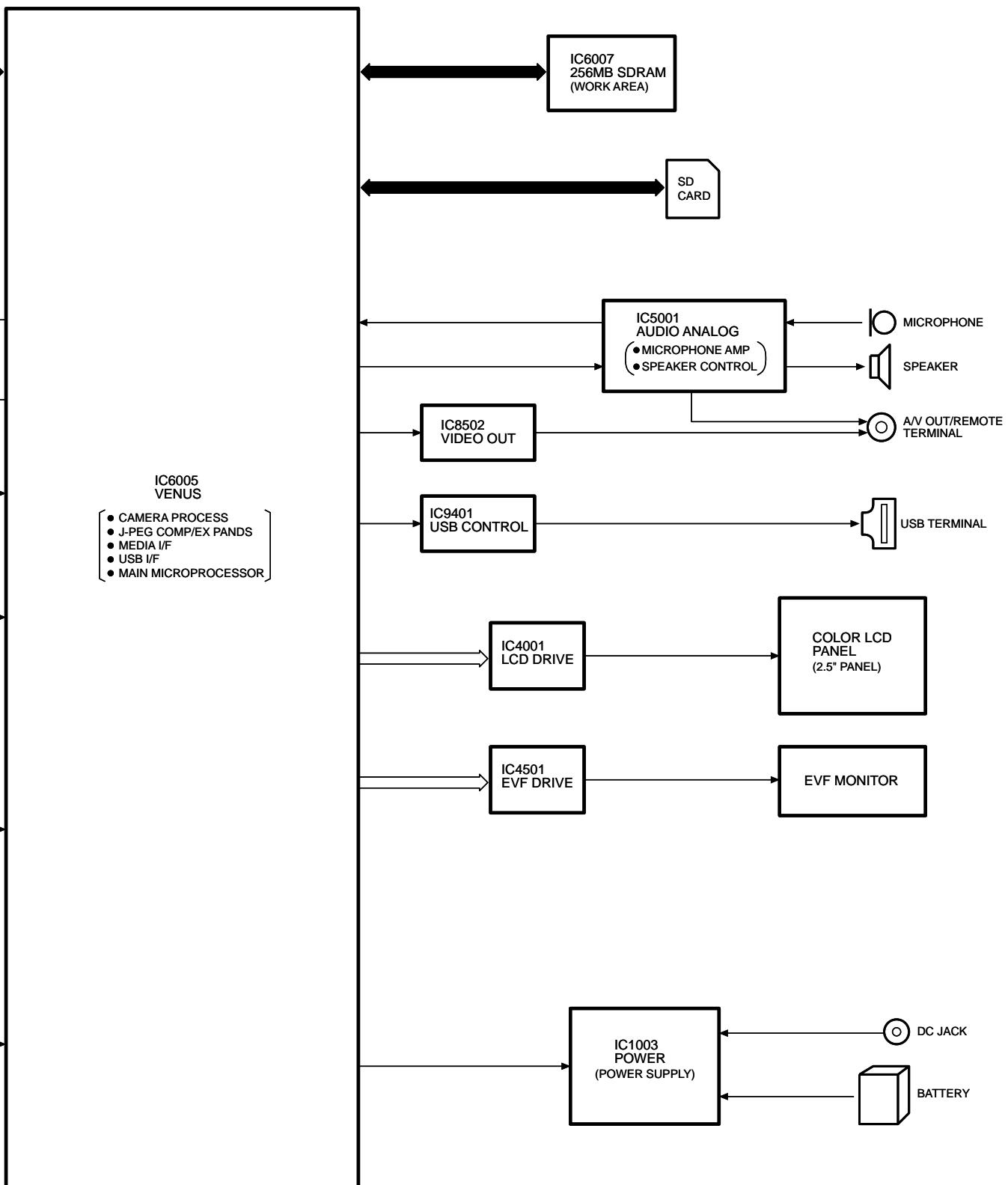


13 SCHEMATIC DIAGRAMS

13.1. OVER ALL BLOCK DIAGRAM

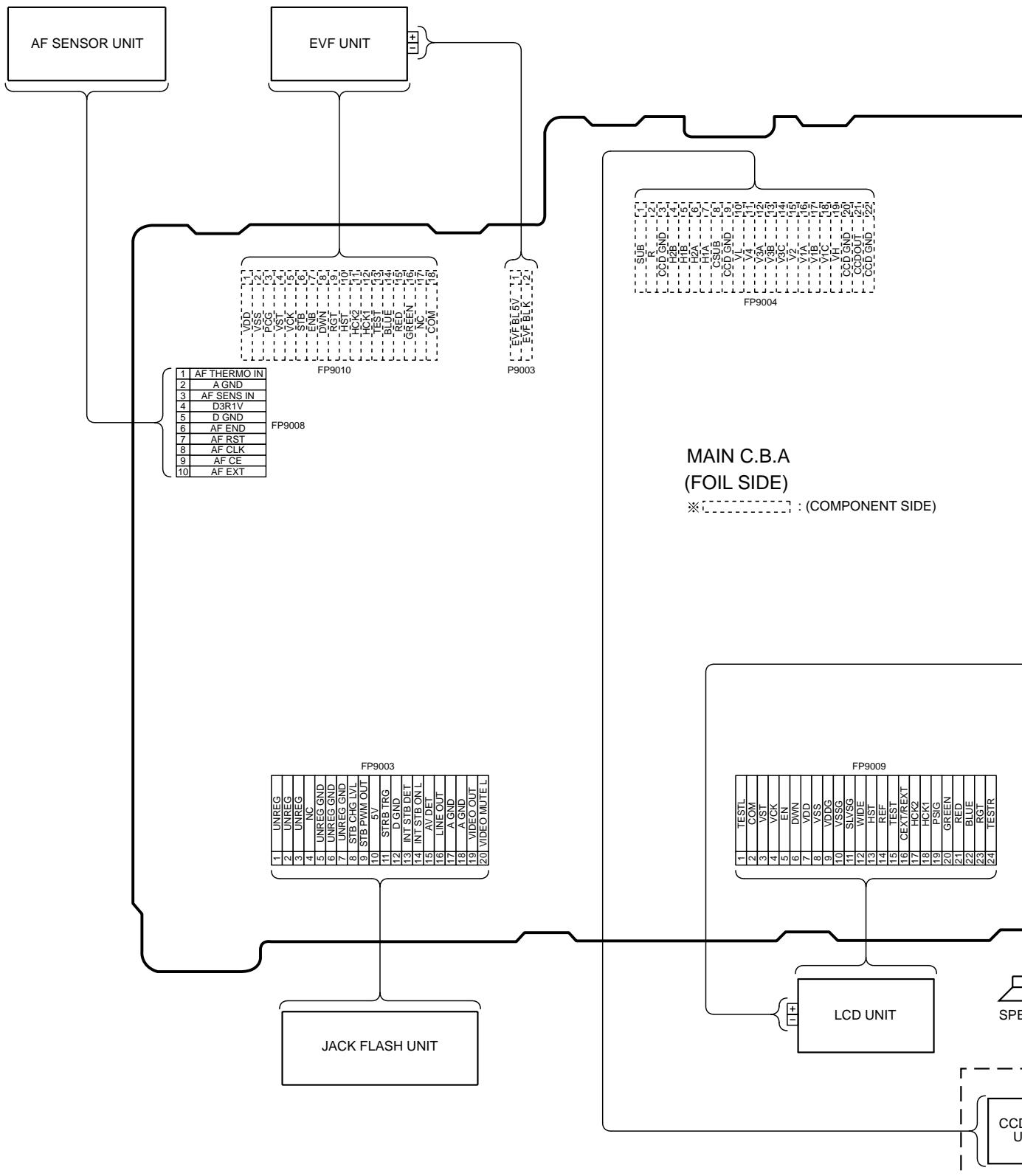
◆ OVERALL BLOCK DIAGRAM



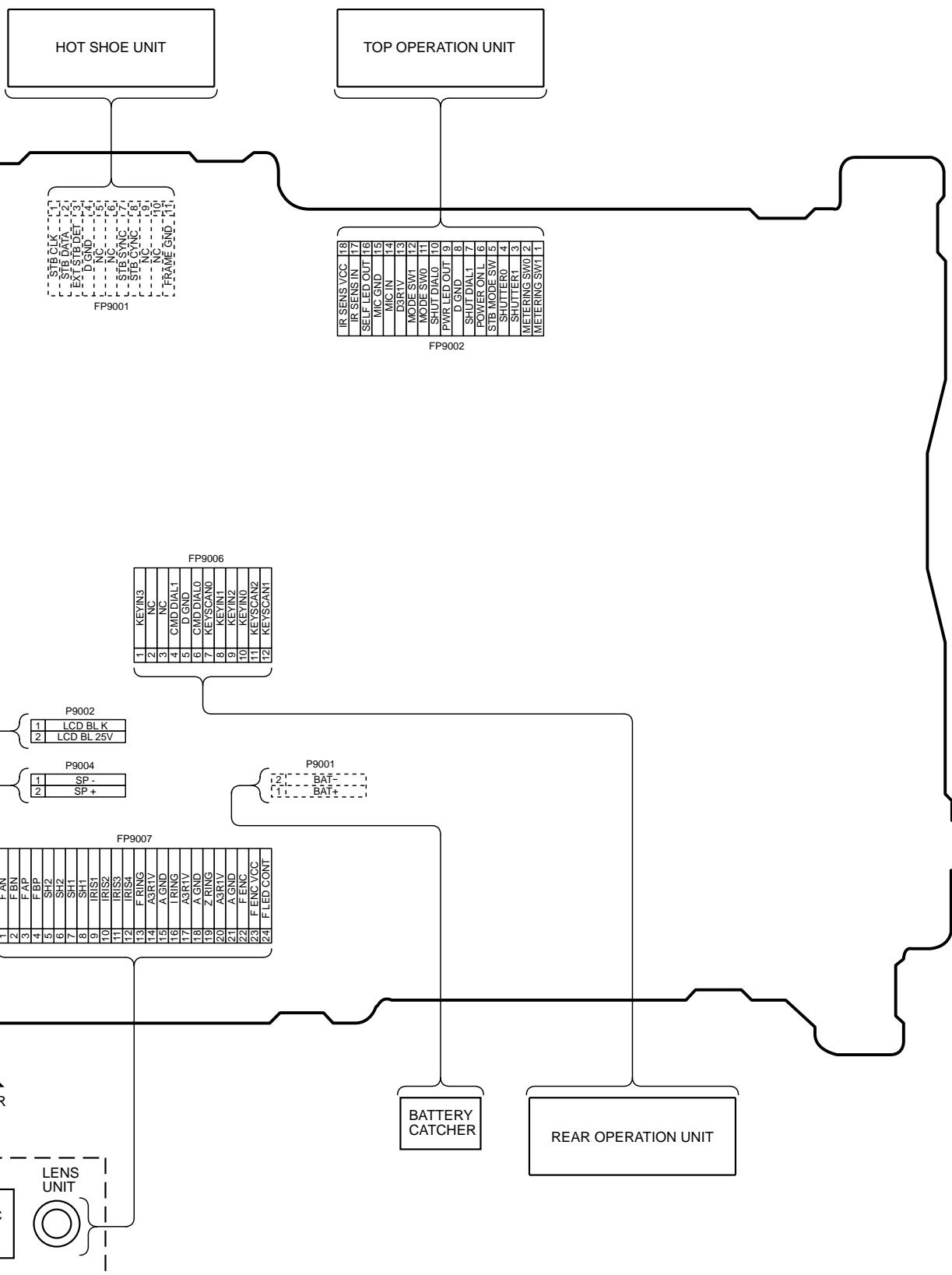


DMC-LC1PP/EB/EG/GC/GD/GN OVERALL BLOCK DIAGRAM

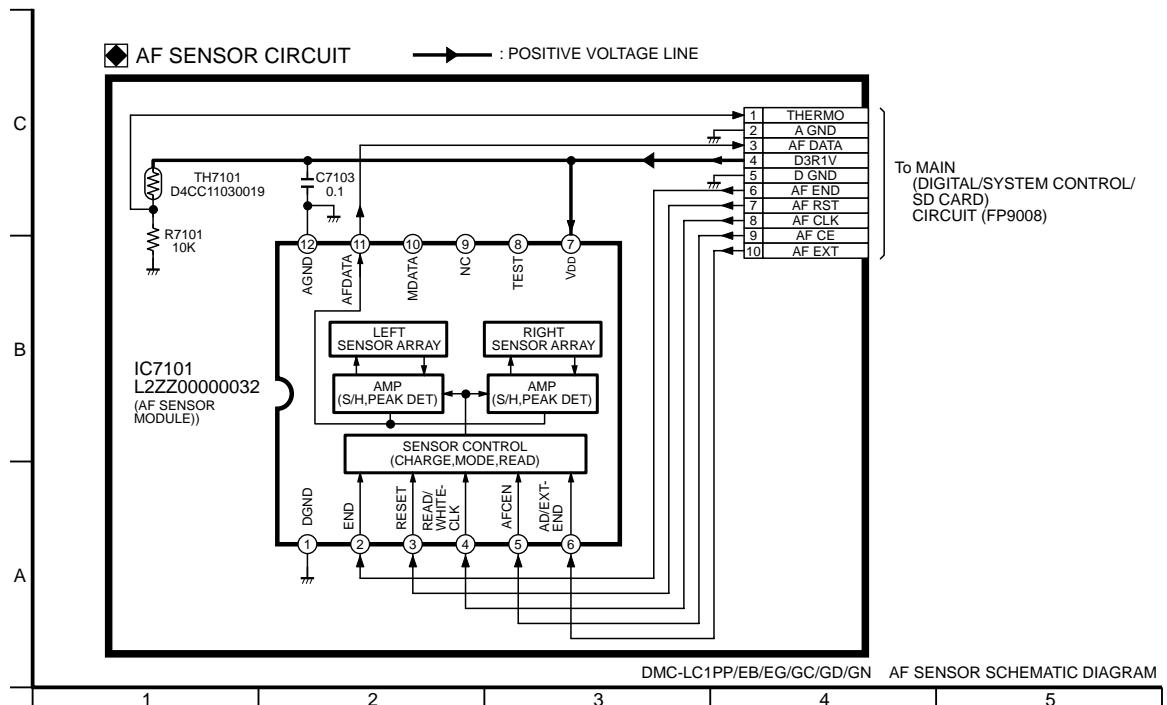
13.2. WIRING CONNECTION DIAGRAM



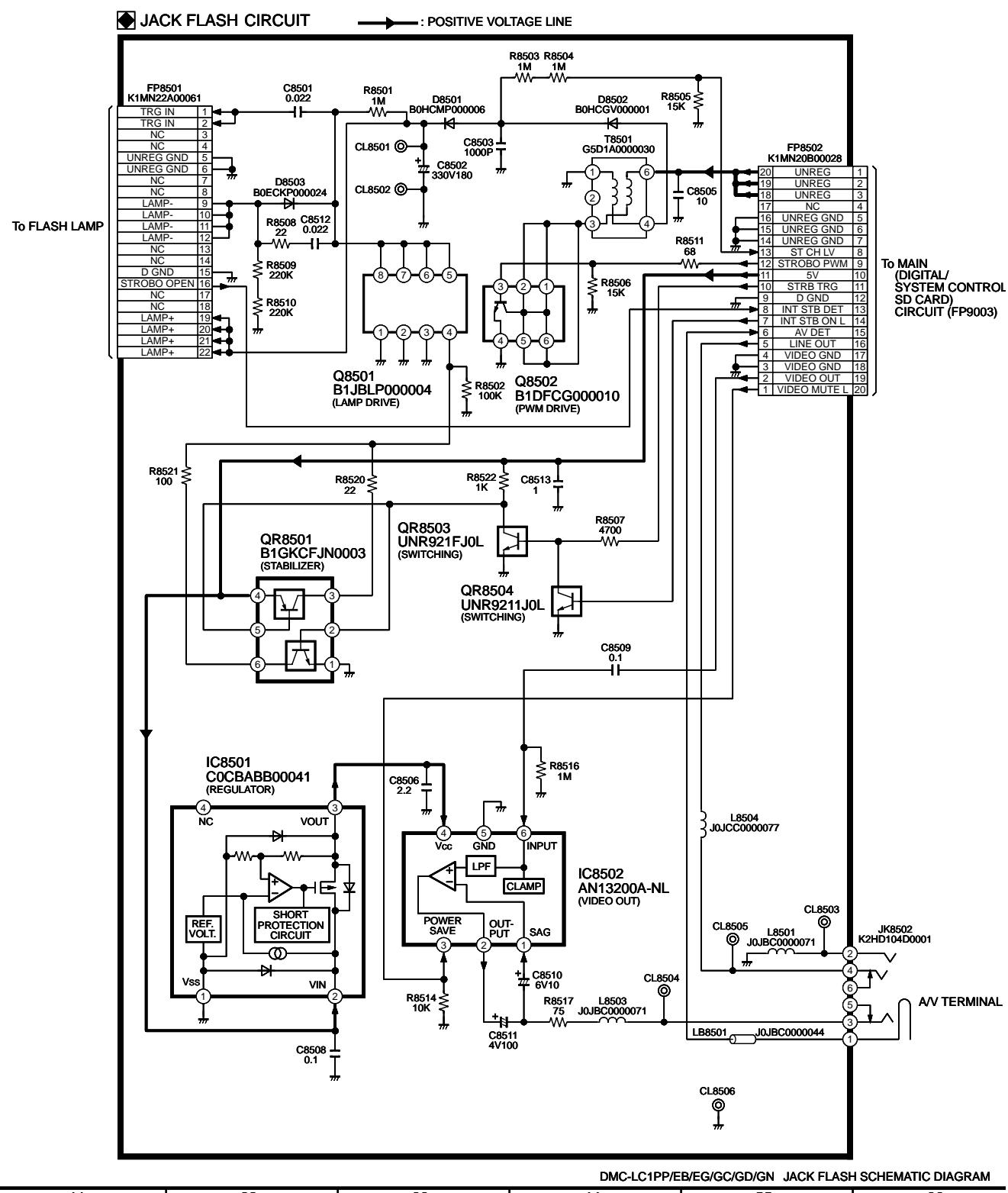
17	HCK2
18	HCK1
19	PSIG
20	GREEN
21	RED
22	BLUE
23	RG1
24	TESTR



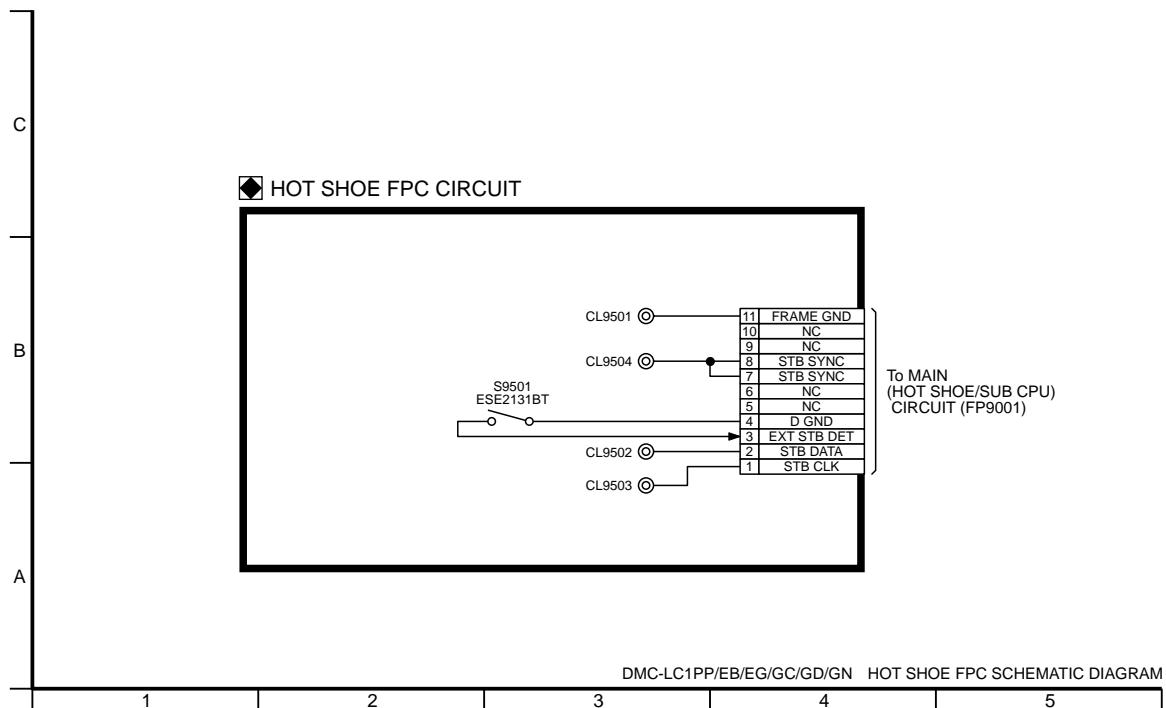
13.3. AF SENSOR SCHEMATIC DIAGRAM



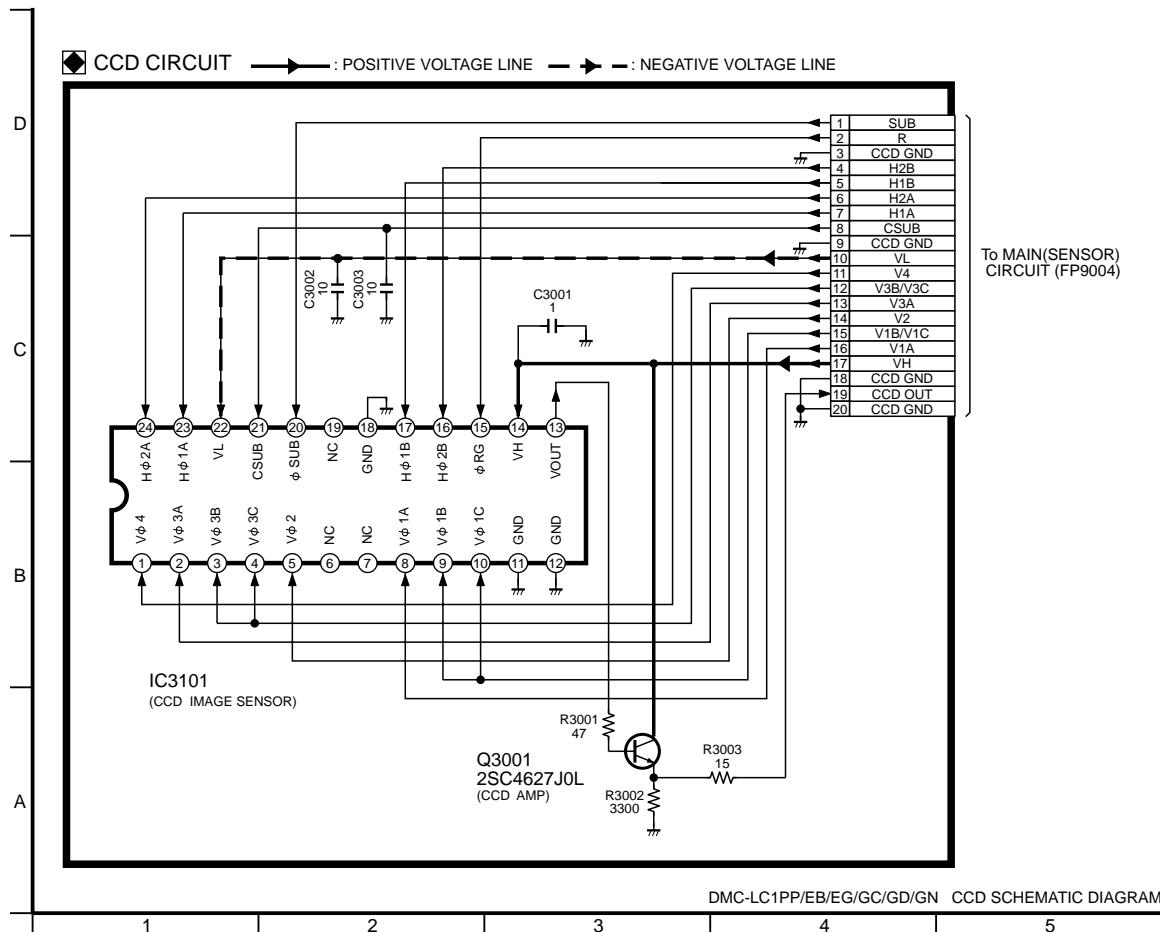
13.4. JACK-FLASH SCHEMATIC DIAGRAM



13.5. HOT SHOE FPC SCHEMATIC DIAGRAM

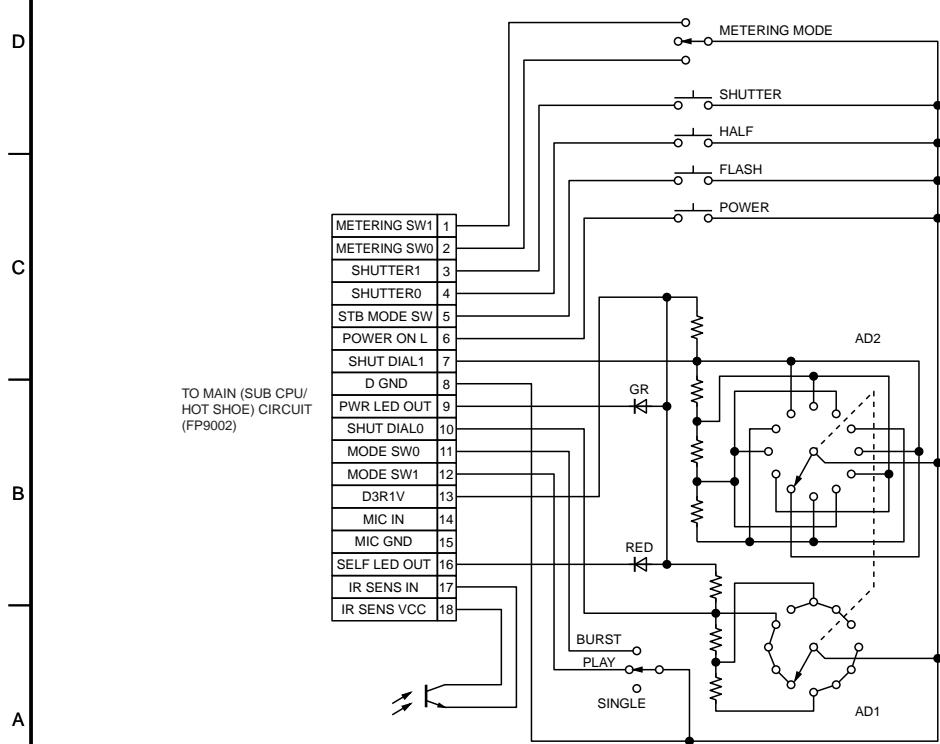


13.6. CCD SCHEMATIC DIAGRAM



13.7. TOP OPERATION SCHEMATIC DIAGRAM

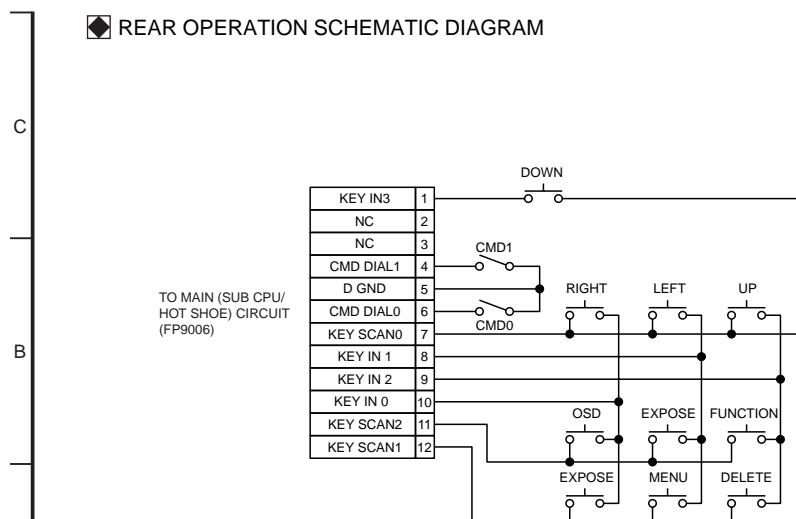
◆ TOP OPERATION SCHEMATIC DIAGRAM



DMC-LC1PP/EB/EG/GC/GD/GN TOP OPERATION SCHEMATIC DIAGRAM

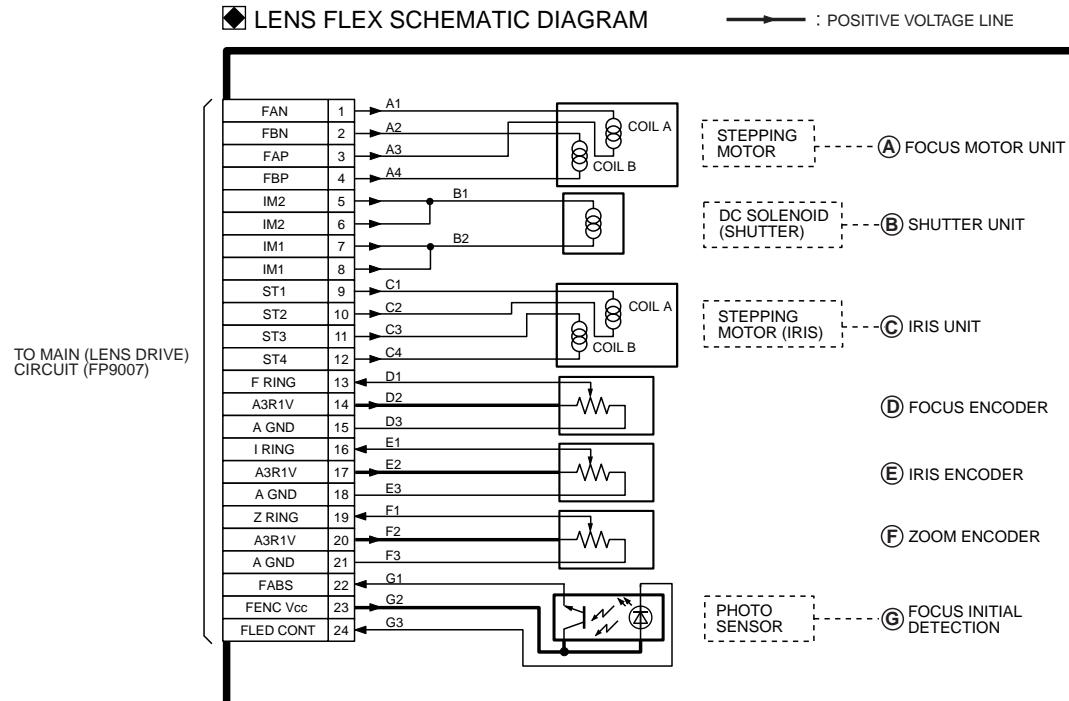
13.8 REAR OPERATION SCHEMATIC DIAGRAM

REAR OPERATION SCHEMATIC DIAGRAM



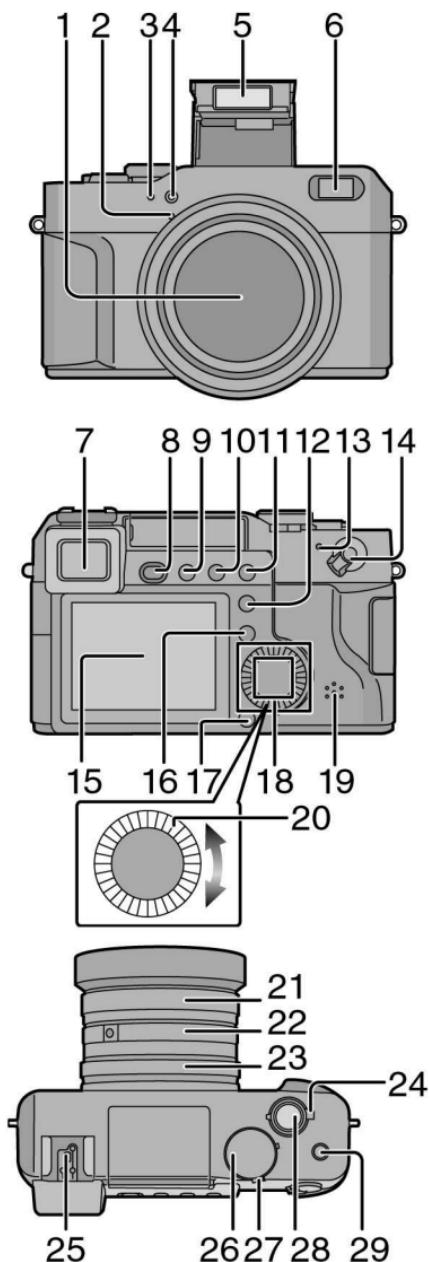
DMC-LC1PP/EB/EG/GC/GD/GN REAR OPERATION SCHEMATIC DIAGRAM

13.9. LENS FLEX SCHEMATIC DIAGRAM



DMC-LC1PP/EB/EG/GC/GD/GN LENS FLEX SCHEMATIC DIAGRAM

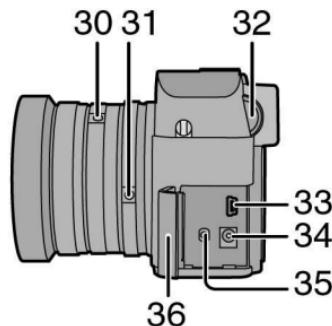
Names of the Components



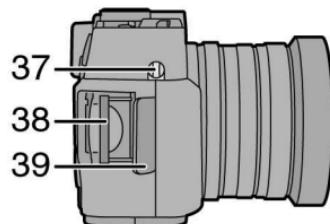
- 1 Lens
- 2 Microphone
- 3 White Balance Sensor
- 4 Self-timer Indicator
- 5 Flash
- 6 AF Sensor

- 7 Viewfinder
- 8 Flash Open Button
- 9 [EVF/LCD] Button
- 10 [DISPLAY] Button
- 11 Exposure Compensation /Auto Bracket /Flash Output Adjustment Button
- 12 [FUNCTION] Button
- 13 Power Indicator
- 14 Camera Switch
- 15 LCD Monitor
- 16 [MENU] Button
- 17 Delete Button
- 18 Cursor Buttons
 - ▲/Self-timer Button
 - ▼/REVIEW Button
 - ◀ Button
 - ▶ Button
- 19 Speaker
- 20 Command Dial

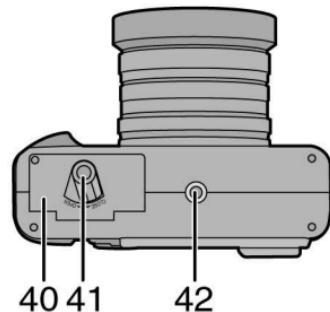
- 21 Zoom Ring
- 22 Focus Ring
- 23 Aperture Ring
- 24 Metering Mode Dial
- 25 Hot Shoe
- 26 Shutter Speed Dial
- 27 Operational Mode Dial
- 28 Shutter Button
- 29 Flash Button



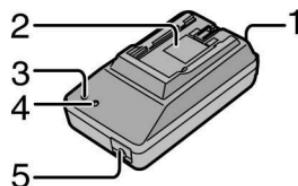
- 30 Focus Ring Button
- 31 Aperture Ring Button
- 32 Diopter Adjustment Dial
- 33 [USB] Socket (5pin)
- 34 [DC IN] Socket
- 35 [AV OUT/REMOTE] Socket
- 36 Terminal Door



- 37 Strap Eyelet
- 38 Card Slot
- 39 Card Door



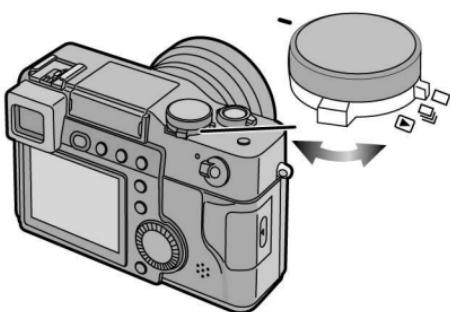
- 40 Battery Door
- 41 Battery Door Open/Close Lever
- 42 Tripod Receptacle



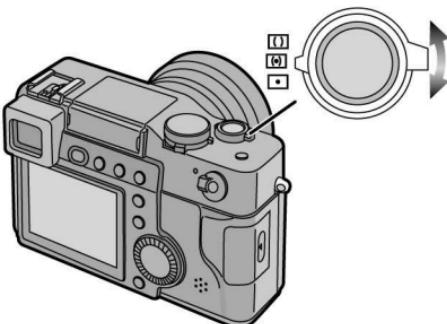
- 1 [AC IN] Terminal
- 2 Battery Attachment Part
- 3 [POWER] Indicator
- 4 [CHARGE] Indicator
- 5 [DC OUT] Terminal

Operational Mode Dial and Metering Mode Dial

■ Operational mode dial



■ Metering mode dial



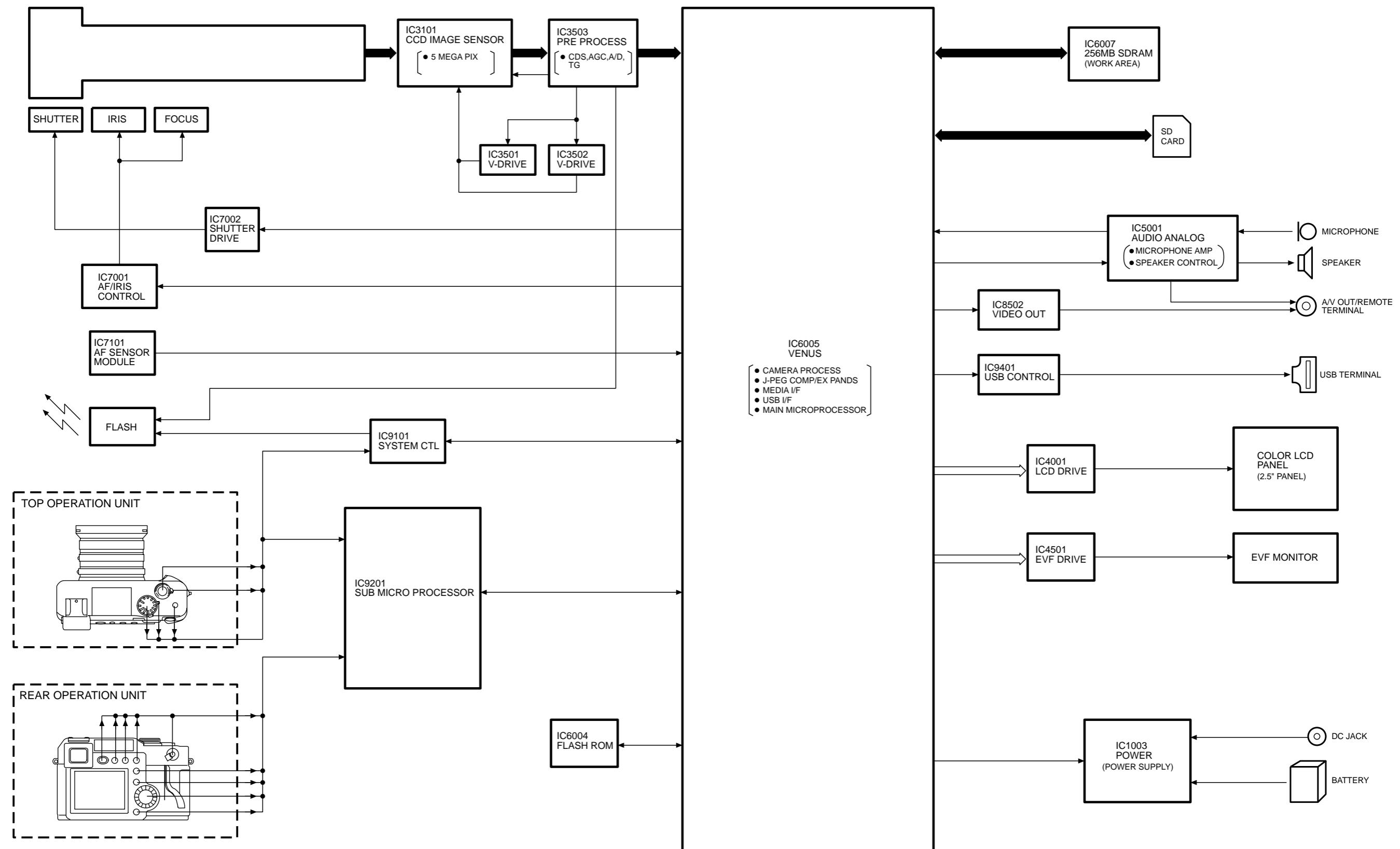
You can switch to the recording mode (single/burst) and the playback mode.

- : Single mode
- : Burst mode
- : Playback mode

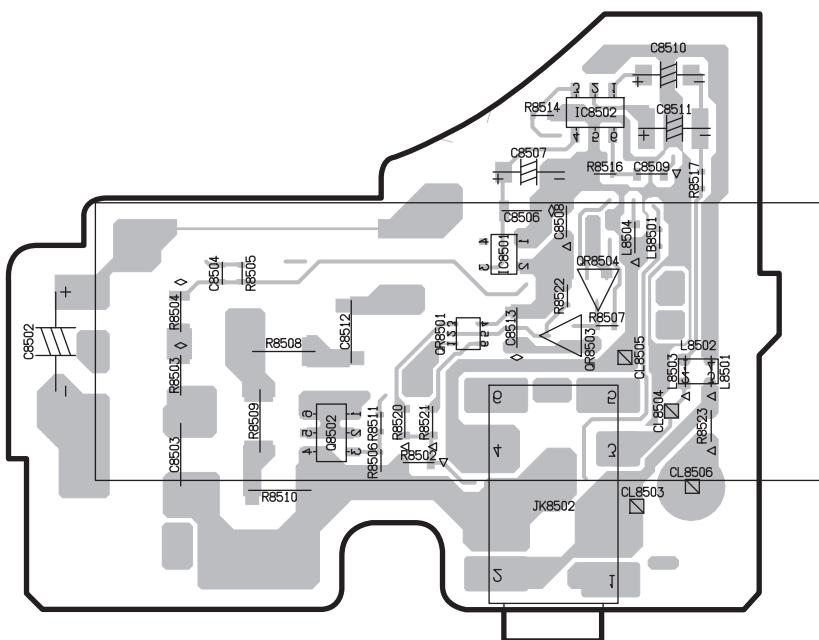
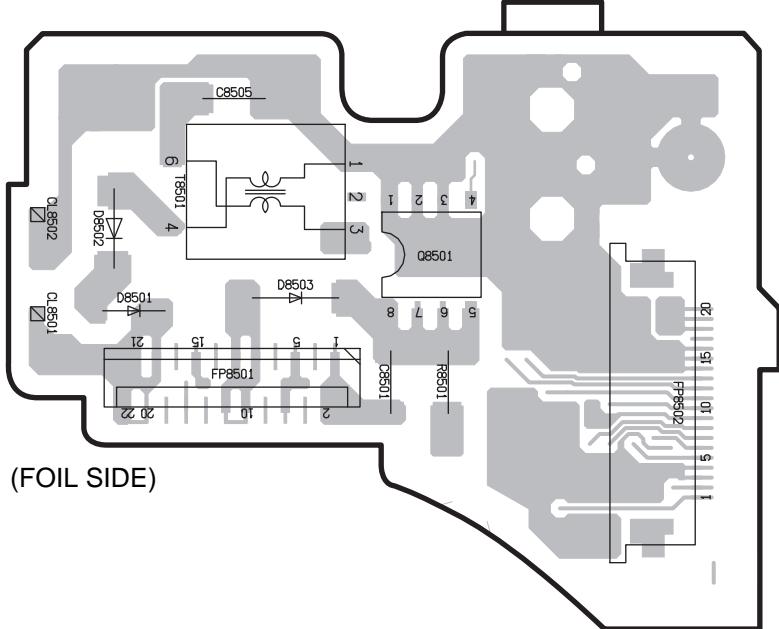
You can switch to the following metering methods.

Metering mode	Details of setting
Multiple	This evaluates the whole of the screen and optimizes the exposure.
Centre weighted	This evenly evaluates the whole of the screen pointing to the subject on the centre of the screen.
Spot	This evaluates the subject on the spot metering target.

◆ OVERALL BLOCK DIAGRAM



H
G
F
E
D
C
B
A

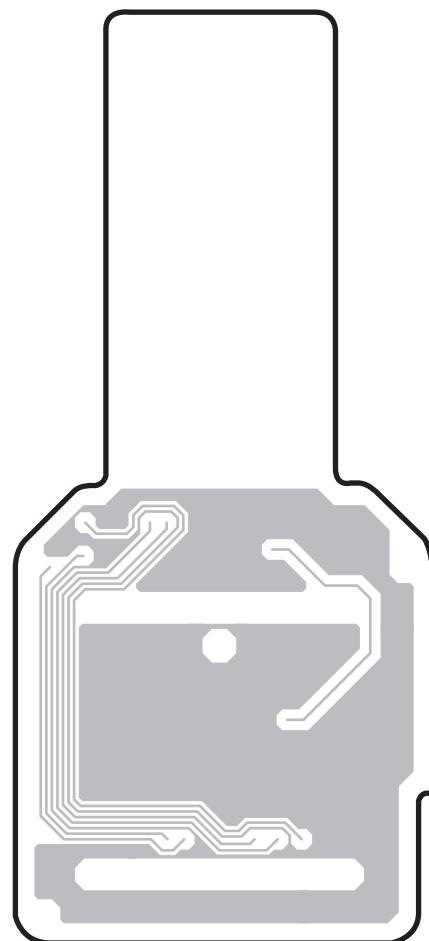


ADDRESS INFORMATION

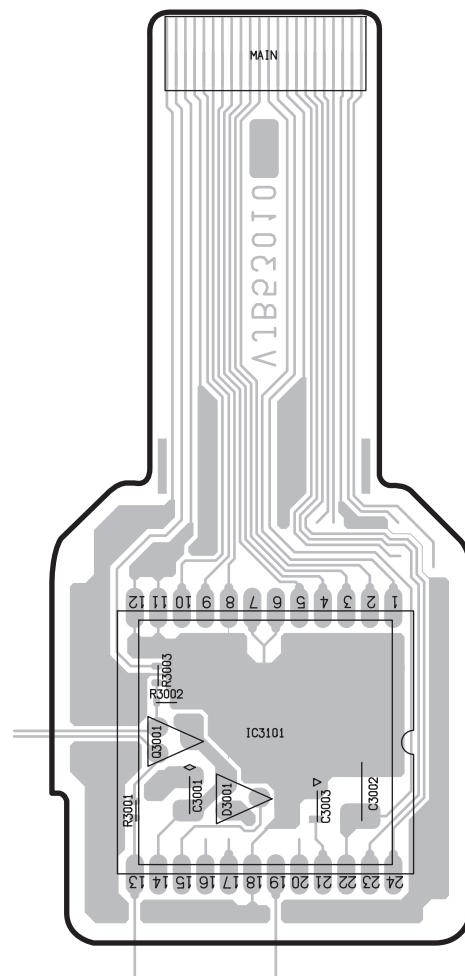
JACK FLASH C.B.A.		
Integrated Circuit		
IC8501	C-3	C
IC8502	D-3	C
Transistor		
Q8501	F-3	F
Q8502	B-2	C
QR8501	C-3	C
QR8503	C-3	C
QR8504	C-3	C
Test Point		
CL8501	F-1	F
CL8502	F-1	F
CL8503	B-4	C
CL8504	B-4	C
CL8505	B-4	C
CL8506	B-4	C
Connector		
FP8501	F-2	F
FP8502	E-4	F
Diode		
D8501	F-1	F
D8502	F-1	F
D8503	F-2	F
Transformer		
T8501	F-2	F
Coil		
L8501	B-4	C
L8502	B-4	C
L8503	B-4	C
L8504	C-4	C
Chip Bease		
LB8501	C-4	C
Jack		
JK8502	B-3	C
Capacitor		
C8501	F-3	F
C8502	C-1	C
C8503	B-2	C
C8504	C-2	C
C8505	G-2	F
C8506	C-3	C
C8507	C-3	C
C8508	C-3	C
C8509	C-4	C
C8510	D-4	C
C8511	D-4	C
C8512	C-2	C
C8513	C-3	C
Resistor		
R8501	F-3	F
R8502	B-3	C
R8503	B-2	C
R8504	C-2	C
R8505	C-2	C
R8506	B-3	C
R8507	C-4	C
R8508	C-2	C
R8509	B-2	C
R8510	B-2	C
R8511	B-3	C
R8512	B-3	C
R8513	D-3	C
R8514	C-4	C
R8515	C-4	C
R8516	B-3	C
R8517	B-3	C
R8518	B-3	C
R8519	B-3	C
R8520	B-3	C
R8521	B-3	C
R8522	C-3	C
R8523	B-4	C

C ... COMPONENT SIDE
F ... FOIL SIDE

(FOIL SIDE)



(COMPONENT SIDE)



ADDRESS INFORMATION

CCD C.B.A.	
Integrated Circuit	
IC3101	B-4
Transistor	
Q3101	B-3
Diode	
D3001	B-4
Capacitor	
C3001	B-4
C3002	B-4
C3003	A-4
Resistor	
R3001	A-3
R3003	B-3

